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TRANSACTIONS

—OF THE—

THIRTY-FIRST ANNUAL MEETING

—OF—

THE MEDICAL SOCIETY,

—OF THE—

STATE OF NORTH CAROLINA,

HELD AT RALEIGH, MAY, 1884.

WILMINGTON, N. C.:
JACKSON & BELL, WATER-POWER PRESSES,
1884.

MINUTES

—OF THE—

THIRTY-FIRST ANNUAL SESSION

—OF THE—

MEDICAL SOCIETY OF NORTH CAROLINA.

FIRST DAY—MORNING SESSION.

RALEIGH, N. C., May 20th, 1884.

The Medical Society of the State of North Carolina met in annual convention in the hall of the House of Representatives in the city of Raleigh at 11 o'clock, on the morning of May 20th, 1884, President A. B. Pierce in the chair. The other officers of the Society, Dr. S. Julien Picot, Secretary, and Dr. A. G. Carr, Treasurer, being present.

Prayer was offered by Rev. J. S. Watkins, pastor of the First Presbyterian church, Raleigh.

The address of welcome, by Dr. Eugene Grissom, was the first business of the day, and was as follows:

"In the name of the Raleigh Academy of Medicine and of the State capital, I give you a cordial welcome to the Medical Society of North Carolina. You have assembled once more on the spot where thirty-five years ago a few resolute and far-seeing men organized the body which exists in perennial vigor to-day. An entire generation has enjoyed its beneficent work. Since that period the whole face of the country has changed. Many have been the fluctuations of human affairs. Men and systems have risen and fallen with the changing waves of fortune. Yet, measured by social advancement and scientific progress, we have moved centuries away from that day. Many of the eminent pioneers of this work, F. J.

Hill, Cameron, Strudwick, Haywood, Johnson, Williamson, McKee, W. G. Hill, Tucker, Telfair, Taylor, Crenshaw and others, with numbers of those who immediately joined them, have passed away, full of years and full of honors, leaving a surrounding halo, soft and beautiful, lingering upon the horizon of their career, reluctant to vanish from the scene of their usefulness. But some of the original members remain to receive the grateful plaudits of their brethren and to rejoice with them in the honorable record of an institution which has reflected so much credit upon its founders and the State whose name it bears. That record is known and read of all men. The pathetic language of the original appeal to the medical men of North Carolina portrayed the dangers which threatened and the difficulties which surrounded the profession, and which changed your influence and exertions, have been long since happily removed. Even to speak *only* of those whose labors have been closed by the Great Sealer of lips, shows how rich is the history of this Society in names worthy of lasting renown. Year after year they mingled their common offering with yours at the shrine of humanity, the end and aim of all medical effort. Freely they gave of their knowledge to their younger brethren, and when war lowered upon us, they gave to the soldiers their tenderest care. Speedily the day come when it was freely acknowledged that the citizen soldier of no other Southern State received such attention to their sick and wounded, and such supervision of their means to ward off disease and death, as the troops of North Carolina. A public debt of gratitude is due alike to great numbers of your Society, both *deceased* and *living*. The names of the former I need not repeat, for they are embalmed in memory. Of the claims of the latter I cannot speak as they deserve, for they hear me. There is one other event in the history of your Society which deserves signal recognition by the people, because its blessings are not temporary but lasting, and rest not upon a few, but extend to all who value the aid of skill and experience in the hour of peril. It is to you that the people are indebted for the act passed in 1858 requiring examinations of those who propose to serve as practitioners of medicine within our borders. At a time when many States are discussing the practicability of enacting similar statutes to guard the lives and property of their citizens from the ignorant and incompetent—nay,

from the charlatan and impostor, North Carolina can look upon twenty-five years of steady and successful effort to elevate the medical standard by the enforcement of that wise provision. This event alone is a lasting monument to the labors of the Society. You have now set before you another great task. You are endeavoring to direct the great sanitary movement of anticipating the inroads of disease and of protecting the unwary from the dangers of ignorance and imprudence at home and of neglect and greed abroad. In this age of progress surely we shall not much longer see men eager to analyze the fertilizers which feed their cotton and tobacco, but careless of the food and drink which nourish their bodies; anxious about the safety of their herds, but indifferent to the welfare of their children; expending great sums to punish those who steal their property, but unmindful of what may steal away their health and energies—perhaps their lives. The future of sanitary reform has enormous possibilities of good. Mighty as have been the triumphs of the healing art, yet greater will be the day when the world shall know that to prevent disease is grander than to heal it. It will be your task in the unselfish spirit which is the life of the true physician, to lead the people in the paths of wise living and to guide their employment of the organs with which God has endowed them, in a manly obedience to both the physical and moral laws of their structure. Alas! how often the sapping and mining of the *bodily* health by ignorant indulgence or unsuspected surroundings, have only preceded the fall of the whole moral and mental process of our fellow-man. This is a subject too vast to consider here, but the single reflection exhibits the grand opportunities for good that lie within your influence steadily exerted upon the law-making power and the whole face of society. Medicine shares the spirit of the times, and her banners are set along the lines of progress. Although your profession reaches into remotest antiquity for its records, and holds the accumulated thought and skill of the nations of the earth, it is ever new as well as ever old. Men will always suffer—men will always die as long as time endures. Love will always seek to soothe and to save, and as the world advances she will plead the more earnestly with medicine to rescue the beloved object from destruction's grasp. All the social forces impel your ancient and honored craft into the forefront of the human tide. Wisely did Seneca exclaim of old that in a thousand

ages opportunity would not be wanting to add something to science. Medicine is ever on the watch to gather for her alembic from earth and air and sea. She bends her ear to the bedside and her eye to the microscope, and her hand grasps the scalpel in every land and under every sun, that she may be fitted the better to do her master's will. I welcome you as men of science. While the true physician will handle skilfully the instruments of his art, he must know more than the art itself. His mental life is with the noble science of which the art is the temporary expression. He reveres the great names of medical literature, but he bows to no error as truth though hoary with a thousand ages. He compares, he investigates, he measures, he weighs and rejoices to feel that the revelations of truth are as sure as the annual return of the spring-time which calls his brethren to their intellectual feast. I welcome you as veterans in the grand army of humanitarians. In the dark hour of peril, when friends have turned in fright from stricken victims, and horror flapped its black wings over the ravages of fell disease, your profession has gone forward, stout-hearted and alone, to battle with the grim hosts of pestilence and death. Some of you have staunched the ebbing life-blood under the hail of hostile shot. You have braved the summer's sun and the winter's storm in the pursuit of duty. You have struggled for victory even at the edge of the grave, and to-day you can count happy monuments under God of usefulness to your country. But chiefly I welcome you as lovers of your fellow-man. Hard must be the heart that could witness the saddest scenes of distress—of bodily suffering and mental agony—of shame and of remorse—sometimes of unutterable despair, without the tear of compassion and the hand of relief.

"Happy are those whose life-work it is to set the rainbow of hope amid the tear-drops of woe. Sweet is the rest hallowed by the prayers and blessings of the restored and redeemed. But no eulogium is necessary at this day upon a profession weighted with such vast responsibilities and such brilliant triumphs.

"You are not only charged with the health and lives of the people, but as their family physicians you have access to their dearest secrets. You are the confidants of their closest intimacy. You are the counsellors of the critical hours which determine their destiny. In no small degree will the character of the people partake of the type of their medical advisers, for impressions made in the dependent

moments of life remain in the inmost constitution. Charged with such far-reaching influences, the respect and regard of the good fall like flowers in your pathway, and every patriot will rejoice in your prosperity or sympathize in your adversity. I cannot close these simple words of greeting without reminding you that we stand in the home of some of our respected and noble dead—of Haywood, of Johnson, of McKee, of Hill, of Tucker, of Jones, of Little. The ancients were wont upon days of high festival to wrap the images of their noble ancestors in their robes of office and to celebrate the glorious record of their achievements. We rejoice that the fame of our late companions in every part of the State is enshrined in the hearts of the people; the trophies of their skill survive them, and the recollection of their deeds is cherished amongst the precious heirlooms which medicine and philanthropy shall preserve in North Carolina. In the name of the people who are proud of the high standard of medical science you have preserved, and in the name of your brethren, whose hearts and homes open gladly to greet you, let me once more bid the State Medical Society thrice welcome to the City of Oaks."

The address was a model of excellence, both in the sentiments expressed and in the eloquence which marked its delivery. The President warmly returned the thanks of the Society for the generous welcome extended them by the Raleigh Academy of Medicine, and on behalf of the Society he most cordially invited the citizens of Raleigh to attend and witness the deliberations of the Convention.

The calling of the roll was the next order of business, and the following members were found present:

Drs. N. J. Pittman, R. B. Haywood, J. B. Dunn, E. B. Haywood A. B. Pierce, H. W. Faison, P. E. Hines, George A. Foote, Eugene Grissom, J. W. Jones, W. R. Wood, Thomas F. Wood, F. J. Haywood, G. G. Smith, H. T. Bahnson, R. F. Lewis, James McKee, Willis Alston, W. J. H. Bellamy, W. T. Ennett, W. I. Royster, Francis Duffy, L. L. Staton, A. G. Carr, J. W. Vick, P. L. Murphy, T. D. Haigh, L. J. Picot, W. C. Murphy, W. J. Cooke, W. H. Whitehead, R. H. Speight, W. C. McDuffie, N. S. Henderson, George W. Long, R. H. Lewis, J. D. Roberts, A. M. Lee, Richard J. Noble, W. H. H. Cobb, E. H. Hornaday, A. W. Knox, Hurbert Haywood, D. M. Prince, J. A. Sexton, J. C. Walton, Julian M. Baker, R. H. Adams, J. L. Nicholson, Thomas Hill, S. P. Waldo, T. R. Robertson, J. Anderson,

Thomas M. Jordan, R. L. Payne, Jr., T. F. Meisenheimer, W. C. Brownson, A. D. Pair, H. B. Weaver, A. J. Battle, J. T. Strickland, J. B. Gunter, S. H. Rogers, W. L. Hudson, W. H. Bobbitt, K. M. Ferguson, J. H. Anderson, P. J. Macon, F. M. Garrett, Leroy Chapell—(70.)

BOARD OF EXAMINER'S REPORT.

The following gentlemen passed successful examinations: Drs. R. E. Lee Dixon, B. W. Best, Julian A. Smith, M. C. Whitfield, Frank W. Brown, Louis L. Sasser, J. L. Macumber, Mark P. Perry, W. B. Pritchard, W. E. Richardson, H. P. Murray, J. A. Burroughs, E. T. White, G. T. Sikes, G. J. Robinson, W. D. Pruden, J. M. Manning, T. C. McSwain, James Spicer, W. Edwards, T. B. Williams, V. A. Whitley, J. T. J. Battle, J. W. Long, M. R. Adams, W. G. Freeman.

The President then announced the following Committee on Credentials: Dr. A. W. Knox, of Raleigh; Dr. W. R. Wood, of Scotland Neck, and Dr J. W. Jones, of Wake Forest.

PARTIAL REPORT OF THE COMMITTEE ON CREDENTIALS.

Dr. Knox, chairman of the Committee on Credentials, reported the following names for membership:

F. M. Garrett, All-Healing Springs; Leroy Chapell, Forestville; W. G. Freeman, Murfreesboro; W. C. Freeman, Seven Springs; W. J. Jones, Goldsboro; James A. Burroughs, Asheville; Frank W. Brown, Greenville; Julian A. Smith, Wilmington; John L. Macumber, Wilmington; W. D. Pender, Robersonville; John W. Long, Randleman; Mark P. Perry, Macon; William Edwards, Castalia; P. J. Richardson, Eagle Rock; G. T. Sikes, Grissom; William B. Pritchard, Wilmington; John M. Manning, Pittsborough; F. T. Fuller, Raleigh; H. P. Murray, Wallace; T. G. McSwain, Fayetteville; V. A. Whitley, Norwood; John B. Beckwith, Smithfield; L. L. Sasser, Smithfield.

The Committee on Credentials made a further report through Dr. Knox, offering the names of Dr. W. C. Lankford, of Wake Forest; Dr. Leroy Chapell, of Forestville, and Dr. F. T. Fuller, of Raleigh, as eligible to membership in the Society. The report was adopted.

On motion of Dr. Wood it was ordered that the election of the Board of Medical Examiners for the ensuing six years should be deferred until the next day, and made the special order for 12 o'clock.

Dr. Bahnson, of Salem, read a letter from Dr. Otis F. Manson, of

Richmond, honorary member of the North Carolina State Medical Society, expressive of his regrets at his inability to be present and participate in the proceedings. He stated as the cause of his absence the prevalence of an epidemic of typhoid fever in Richmond.

Dr. Lewis, in the absence of the chairman of the Committee of Arrangements, made the announcement that tickets had been provided for the members of the Society to attend the Opera Olivette Wednesday evening, and that they would be distributed during the morning session.

The Secretary then read from the desk the following programme of arrangements for the entertainment of the visiting members of the Society:

May 20—Visit to the Insane Asylum—carriages at Yarborough at 4.30 P. M. sharp. Reception at Peace Institute from 6.30 to 8.30 P. M.; reception at St. Mary's School from 8.30 to 10.30 P. M.

May 21—Dinner at Yarborough Hotel at 4.30 P. M.; oration by Dr. Julien Baker at the Hall of the House of Representatives at 8.30 P. M.

Under the head of miscellaneous business Dr. Wood of Wilmington made a motion to the effect that the election of the new Board of Medical Examiners be recorded as the special order of business for twelve o'clock noon of the next day, Wednesday.

On motion of Dr. Julien Picot, Hon. W. N. H. Smith and Associate Justice Merrimon were invited to seats on the rostrum.

COMMITTEE ON FINANCE.

The chairman announced the Committee on Finance as follows: Dr. W. C. McDuffie, of Fayetteville; Dr. A. W. Knox, of Raleigh; Dr. Willis Alston, of Warren; Dr. W. H. Whitehead, of Rowan.

Dr. Staton moved the appointment of a committee of five to revise the by-laws and report at the next meeting. Dr. Carr, of Durham suggested the "revision" of the members of this Society, and that efforts be made to induce them to abide by the present by-laws.

Dr. Weaver offered a resolution as follows:

Resolved, That there be appointed by the President a committee of seven—two from the eastern, three from the central and two from the western portion of the State, whose duty it shall be to memorialize our next Legislature, by petition or otherwise, urging upon that body in as strong terms as possible the justice of, and necessity for, an amendment of the present law relating to the practice of medicine and surgery,

found in sections 3,122 and 3,132 chapter 34 of 'The Code,' so that it shall be taken and accepted that any person who shall practice medicine or surgery, or any branches thereof, unless he shall have been first licensed so to do by the Board of Medical Examiners of the State of North Carolina, shall be guilty of a misdemeanor.

Action on the resolution is deferred, by special motion, until Wednesday.

PARTIAL REPORT OF THE COMMITTEE ON CREDENTIALS.

The Committee on Credentials reports through Dr. Knox the presence of Drs. Wood and Bellamy as delegates from the New Hanover County Medical Society; of Drs. Pittman and Speight as delegates from the Edgecombe County Medical Association, and Dr. Nat. S. Henderson delegate from Caswell County Medical Association.

Dr. Knox reports further the name of Dr. F. M. Garrett, of King's Mountain, an ex-member of 59, for membership.

The Secretary read communications from Mr. Joseph A. Henly, of Raleigh, inviting the members of the Society to attend a German to be given by him complimentary to the Society on the evening of the same day (Tuesday), and from the Monogram Club, to attend a Hop to be given the next evening (Wednesday) in special compliment to the Society. Dr. Knox, on behalf of Maj. R. S. Tucker, extended an invitation to the Society to visit the Institution for the Deaf, Dumb and Blind.

Voluntary remarks on medical subjects having been declared in order by the chairman, Dr. J. W. Jones, of Wake Forest, made an inquiry upon a matter which came under his observation in New York twelve years ago relative to the connection between encysted tumors of the vulva and sterility in women. Dr. Jones states that during the past twelve months he had met with two cases of sterility in women attended with encysted tumors of the vulva, both of whom had borne children previous to the appearance of the tumors. The tumors were removed, but sufficient time has not yet elapsed to allow of an opinion as to the probable effects on sterility in these cases by the removal of the tumors.

There being no further business before the Society, an adjournment was moved until 10 o'clock A. M. of the next day (Wednesday).

SECOND DAY—MORNING SESSION.

The Society assembled at 10 o'clock A. M., Dr. Pierce, the President, in the chair.

Dr. Thomas F. Wood read before the Society the following communication from Mr. James C. Munds, of Wilmington, Secretary of the North Carolina State Pharmaceutical Society:

OFFICE SECRETARY OF THE NORTH CAROLINA
PHARMACEUTICAL ASSOCIATION,
WILMINGTON, N. C., May 12th, 1884.

To the Medical Society of the State of North Carolina:

GENTLEMEN:—At the last meeting of the North Carolina Pharmaceutical Association the President in his address referred to the prescribing of large doses of potent remedies (see page 9 proceedings of Pharmaceutical Association of 1883), and the committee to whom said address was referred reported as follows:

"WHEREAS, The prescribing large doses of potent remedies is frequently a cause of much embarrassment and annoyance to pharmacists regarding the advisability of dispensing the same without first consulting the prescriber, be it

"*Resolved*, That the North Carolina Pharmaceutical Association respectfully request all physicians in prescribing such drugs to attach some device or by other means indicate they are aware of the unusual dose that they are prescribing." (See page 17 proceedings Pharmaceutical Association, 1883.)

I was directed by the Association to present the above for your consideration.

Very respectfully,
JAMES C. MUNDS,
Secretary N. C. Pharmaceutical Association.

In connection with this matter Dr. Wood read excerpts from the minutes of the Fourth Annual Session of the North Carolina State Pharmaceutical Association meeting, as follows:

"It is to be regretted that the Committee on Revision did not deem it wise to formulate a set of maximum doses, especially of the more potent remedies. While, as before remarked, there is no law compelling an adherence to the Pharmacopœia, yet if the committee had seen proper to prescribe a maximum dose, beyond which the physician be requested not to go without affixing some sign (an exclamation point, for instance), showing that he is cognizant of, and intends to prescribe a larger dose, how much of embarrassment and anxiety would be saved

the pharmacist. While we may do little or nothing in this respect with the country at large, may we not do something in our own State? I respectfully suggest that a resolution embodying this idea be transmitted to the State Medical Society by this Association, with the request that they urge upon their members the importance of a compliance therewith. This, as you are aware, is no new idea, but is regarded as of such importance in other lands as to cause the most stringent laws to be enacted for its enforcement and heavy penalties prescribed for its violation."

Also:

"As regards the matter of the prescribing more than maximum doses by physicians, we beg to offer the following resolution, the same to be transmitted, at their next meeting, to the members of the North Carolina State Medical Society:

"WHEREAS, The prescribing of large doses of potent remedies is frequently a cause of much embarrassment and annoyance to pharmacists, regarding the advisability of dispensing the same without first consulting the prescriber, be it

"*Resolved*, That the North Carolina Pharmaceutical Association respectfully request all physicians in prescribing such drugs to attach some device or by other means indicate they are aware of the unusual dose that they are prescribing."

At the close of his remarks Dr. Wood moved the appointment of a committee of three to take action relative to the matter and report at the next meeting.

REPORTS OF COMMITTEES.

Dr. McDuffie, chairman of the Committee on Finance, reported as follows:

Balance in hand at last session (1883)	$ 71 80
Amount received at said session	523 20
Total	$595 00
Contra:	
Expenses for year 1883	$524 59
Balance in Treasury	$ 70 41

We recommend the same assessment of $2.00 per capita, as heretofore, and that the Secretary and Treasurer be paid same salary as before.

W. C. McDUFFIE,
WILLIS ALSTON,
W. H. WHITEHEAD.

Dr. L. L. Staton read the report of the Section on the Progress of Surgery. Subject: "Abdominal Surgery."

Dr. Long moved that Dr. Staton's paper be referred to the Committee on Publication.

On motion, Dr. J. L. Nicholson, the special essayist, was requested to read his paper. Subject: "Animal Heat; Its Sources and Variations."

Dr. McDuffie moved that a vote of thanks be given to Dr. Nicholson in recognition of the especially excellent and admirable nature of his paper.

Dr. W. H. Bobbitt, of Raleigh, took the floor on a question of privilege, and read a communication setting forth his grievances as follows:

"*Mr. President*:—I rise to a question of personal privilege. In the interests and rights of myself, of this Society and of our profession, I feel it my duty to do so.

"I was admitted a member of this Society at the meeting in Tarborough last year. In October following I removed from Rockingham, where I had been engaged in the practice of medicine for two years, and located as a practitioner in the city of Raleigh.

"Since my connection with the Society I have studiously observed its rules and regulations, and faithfully adhered to the recognized code of ethics of the profession as adopted by this Society.

"Soon after I located in Raleigh I joined the Raleigh Academy of Medicine in good faith. Before joining either this Academy or the Society I informed myself of the action of the State Society at its meeting held in Wilmington in 1880, in reference to the fees for examination of applicants for life insurance. The result of the discussion of this question, then and there made, was as follows: That the usual examination fee of five dollars did not apply to examination of applicants for a mystic order with a beneficiary or benevolent feature. The Society decided, as the proceedings show, that it did not apply to examination of applicants for such orders as the Knights of Honor. I soon found, after connecting myself with the Raleigh Academy of Medicine, that this action of the State Society was not popular with the Academy, and that the members literally repudiated it. For this reason, and because the Academy were not inclined to allow me privileges guaranteed to me by the State Society, I severed my connection with the Academy. After this withdrawal, and not before, I joined the Order

of Knights and Ladies of Honor, and was appointed its medical examiner. Before I had examined a single applicant for life insurance in this body, I received an official communication from the Academy notifying me that henceforth the fellows would refuse me consultation so long as I maintained the attitude I then held. The attitude, I take it, referred to the fact that my fee for examination, and fixed by the Knights and Ladies of Honor, was and is two dollars, whereas the Academy had fixed the fee for examination of applicants for insurance at five dollars per head, and five dollars additional when an analysis of the urine had to be made.

"Now, Mr. President and fellow-members of the Society, I have made this running statement in order that you may see and determine my status in the Society. The fellows of the Academy are, in common with me, members of this Society. If I have done anything wrong or in violation of the regulations of this Society or the recognized code of the profession, the Society will please say what it is and wherein I have transgressed. On the other hand, if this has not been done by me, I wish in this defense of my course for that endorsement and support, which a member has a right to claim, whose only offense is in obeying that decree of the Society which is my shield and armor in this matter. It may be said that this is a local matter, personal to myself, and that the Society should not be troubled with its consideration and investigation. But it involves a principle that is important to us all and to the profession; and I have mistaken the objects of this Society if the members now assembled ignore the question presented, or decline to define my status, rights and relations. There is evident antagonism in this insurance matter between this Society and the Raleigh Academy of Medicine.

"So long as I was connected with the latter I observed its rules and regulations as to insurance fees and all other matters. Why I should be refused consultation by its members, after withdrawing, because the charge against me was no other than a compliance with the law of the State Society, I leave it to the Society to investigate.

"The Academy refuses to make any distinction between old line companies and benevolent societies with an insurance feature. The State exempts from taxation these benevolent associations, and the State Medical Society recognizes the same great principle of charity and benevolence which constitutes one of the glories of our profession,

and allows the fees to be less than for old line companies with their millions of assets.

"With this, Mr. President and gentlemen, I leave the matter with you, and await your impartial decision."

Dr. E. B. Haywood, of the Raleigh Academy of Medicine, states that the Academy, of which he is a member, has a regular fee bill, and by this bill applicants for examination for entrance into Insurance organizations are charged not less than $5.00, and $5.00 additional is charged should an examination microscopical and chemical be made of the urine. Another law of the Raleigh Academy of Medicine is to the effect that any infringement or departure from the established fee bill shall deprive the party guilty of the offence of the privilege of consultation. This rule was in force before Dr. Bobbitt became a member of the Raleigh Academy. The question of charging a less fee for examinations for beneficent organizations has been discussed by the Raleigh Academy recently, and the result was the ratification of the old rule. It is required that any one joining the Raleigh Academy of Medicine shall sign the Constitution and Fee bill.

Dr. Bellamy moved that the matter be referred to a committee appointed by the chairman for adjudication.

Dr. Hines stated warmly that the question had been decided *irrevocably* by the Raleigh Academy of Medicine, and that they will continue the same regulations in force in the future.

Dr. Satchwell: "I am no examiner for an Insurance Company, nor am I a member of any beneficent organization with an insurance feature. I have no personal axe to grind in this matter, but for the good of the Society I wish no such disturbing question to be discussed publicly, and I therefore move an amendment to the motion before the house, to the effect that the matter be referred to the Board of Censors, and that they be instructed to report at this meeting.

The question was discussed very warmly by several members of the Society, among others Drs. Faison, Bellamy and Roberts.

Dr. H. G. Bahnson, Secretary of the Board of Medical Examiners, made a most interesting report of an historically valuable nature, giving details and statistics as to the progress of the examining system since its inception in 1859.

REPORT OF THE FOURTH BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA, AT THE CONCLUSION OF THEIR TERM OF OFFICE (1879–1884)—MAY 25TH, 1884.

The Legislature of North Carolina, on the 17th day of February, 1859, passed "an act to incorporate the Medical Society of the State of North Carolina, and for the establishment of a Medical Board of Examiners." In this paper a brief history is given of the work accomplished by the Board of Medical Examiners during the twenty-five years of its existence.

The law as originally passed required the Medical Examiners to meet alternately in Raleigh and Morganton, on the first Monday in May of every year. Only in 1871 was the law so amended that they were allowed to meet at the same times and places as the Medical Society assembled, and traveling expenses and a small per diem were to be paid out of such money as they might receive from the granting of licenses. That under such difficulties and hardships the Board maintained its existence, is certainly creditable to the medical profession in North Carolina.

The first Board, elected in 1859, was composed of the following gentlemen :

Dr. Jas. H. Dickson, of Wilmington, President.
" Chas. E. Johnson, of Raleigh.
" Caleb Winslow, of Hertford.
" Otis F. Manson, of Townsville, now of Richmond, Virginia.
" Wm. H. McKee, of Raleigh.
" Christopher Happoldt, of Morganton.
" J. Graham Tull, of Newbern,
with Samuel T. Iredell, Secretary and Treasurer.

At their first meeting, in 1859, one applicant was examined and granted license, viz :

Lucius C. Coke, M. D., Palmyra, Halifax county.

In 1860 seventeen licenses were granted and one refused.
In 1861 twelve " "
In 1862 one " " and two refused.

There is no record of any meeting of the Board during the three following years.

In 1866 the second Board was elected :

Dr. N. J. Pittman, Tarborough, President.
" E. Burke Haywood, Raleigh.

Dr. R. H. Winborne, Edenton.
" S. S. Satchwell, Rocky Point.
" J. J. Summerell, Salisbury.
" R. B. Haywood, Raleigh.
" M. Whitehead, Salisbury;
and Wm. Little was chosen Secretary and Treasurer.

Dr. Whitehead resigned in 1868, and Dr. J. F. Shaffner, of Salem, was elected to fill the unexpired term.

In 1867 five licenses were granted.

In 1868 there is no record of any meeting.

In 1869 eight licenses were granted.

In 1870 five licenses were granted.

In 1871 one license was granted.

In 1872 two licenses were granted.

The third Board was elected in 1872:

Dr. Charles J. O'Hagan, Greenville, President.
" W. A. B. Norcom, Edenton.
" C. Tate Murphy, Clinton.
" George A. Foote, Warrenton.
" J. W. Jones, Tarborough.
" R. L. Payne, Lexington.
" Charles Duffy, Jr., Newbern, Secretary and Treasurer.

In 1873 nine licenses were granted and one refused.
In 1874 seven " "
In 1875 thirteen " "
In 1876 seven " "
In 1877 fifteen " "
In 1878 fifteen " "

In 1878 the fourth Board was elected:

Dr. P. E. Hines, Raleigh, President.
" T. D. Haigh, Fayetteville.
" R. I. Hicks, Williamsborough.
" George L. Kirby, Goldsborough.
" Thomas F. Wood, Wilmington.
" Jos. Graham, Charlotte.
" H. T. Bahnson, Salem, Secretary and Treasurer.

In 1880 Dr. R. J. Hicks resigned his position, and Dr. Richard H. Lewis, of Raleigh, was elected to fill the vacancy.

In 1879 thirty-four licenses were granted—five refused.
In 1880 twenty-six " " —seven "

In 1881 thirty-eight	"	"	—five	"
In 1882 twenty	"	"	—five	"
In 1883 thirty-one	"	"	—one	"
In 1884 thirty-four	"	"	—two	"

One license was rescinded on account of grossly immoral conduct of the recipient.

Previous to the organization of the present Board a branch of medicine was assigned to each examiner, who for the six years of his term conducted examinations on that branch alone. The present Board, at its first meeting, instituted a system of rotation, so that each member would examine on a different branch each year. The first examination of the applicant for license was conducted privately by each examiner. The notes of these examinations were afterwards compared at a meeting of the whole Board, and the result determined by vote. In cases where a re-examination was required, this was conducted before the whole Board, and a member of the Board was selected by the President to examine on such branches as had at the first examination been assigned to other members of the Board. The fairness of this method cannot be questioned, and the unanimity of opinion thus acquired by the whole Board, in the case of each applicant examined, was most remarkable. In the light of these explanations the following tabulated statement is interesting:

From University of New York.....	21	graduates licensed,	none refused.
" Bellevue Hospital Medical College	21	"	"
" Jefferson Medical College.....	21	"	"
" University of Virginia.....	5	"	"
" Medical College of South Carolina	6	"	1
" University of Maryland..	29	"	"
" University of Pennsylvania.....	5	"	"
" Long Island College Hospital.....	2	"	"
" Philadelphia University.....	1	"	"
" University of Edinburg, Scotland,	1	"	"
" Harvard College.....	1	"	"
" Medical College of Richmond, Va.	1	"	"
" University of Iowa.....	1	"	"
" Coll. Physicians and Surgeons, N.Y	2	"	"
" Washington University, Baltimore	15	"	3
" Coll. Physicians and Surgeons, Balt.	25	"	4
" Louisville Medical College.....	11	"	1
" Kentucky School of Medicine.....	1	"	1
" Baltimore Medical College.....	1	"	1
" Central University, Louisville, Ky.	none	"	1
" Edenboro College, N. C.....	none	"	1
" Vanderbilt University, Nashville,	3	"	1
" University of Tenn. (Nashville)...	none	"	1
" Atlanta Medical College.....	1	"	1
Non-graduates.....	9	"	9
Total.....	183		25—208

RECAPITULATION.

The first Board of Medical Examiners examined thirty-four applicants, granted license to thirty-one and refused three.

The second Board granted twenty-one licenses.

The third Board granted sixty-six licenses and refused one.

Under these three Boards, therefore, a total of one hundred and twenty-two were examined, of whom one hundred and eighteen received license.

[NOTE.—It is probable that no accurate record was kept of applicants who were refused license.]

During the six years of its existence the fourth Board of Medical Examiners has examined two hundred and eight applicants for license. To one hundred and eighty-three of these licenses were granted. Twenty-five were found unfit to receive license, and of this number sixteen were graduates of chartered medical schools.

In conclusion, the Board return their sincere thanks to the Medical Society, the Press and the people of the State for their cordial support and co-operation. They have endeavored to do their duty without fear, favor or prejudice, and now resign their trust into the hands of those from whom, six years ago, they received it. They retire from their arduous and most unpleasant field of labor with the belief that their conscientious efforts to maintain the standard of medical education and protect the people of their State against ignorance and incompetency have not been in vain.

Respectfully submitted,

P. E. HINES, M.D., President.
T. D. HAIGH, M.D.,
GEO. L. KIRBY, M.D.,
THOMAS F. WOOD, M.D.,
JOS. GRAHAM, M.D.,
RICHARD H. LEWIS, M.D.,
HENRY T. BAHNSON, M.D., Secretary.

RALEIGH, N. C., May 22, 1884.

Dr. Satchwell moved that a vote of thanks be tendered the retiring Board in recognition of their very efficient and faithful services while in office.

Dr. Lewis offered a resolution: That the names of all the licentiates of the different Boards of medical examiners since 1859 be

published in the county paper of each county in the State for thirty days.

Dr. Wood, of Wilmington, offered as an amendment: That the names of each licentiate since 1859 should be printed in an extra reprint of the Report of the Board of Examiners, and that the North Carolina Board of Health be permitted to take the matter in hand; and that the names of these licentiates be published in several of the leading papers in the State. The motion was adopted as amended.

On motion of Dr. A. W. Knox, of the Committee on Credentials, the vote by which Messrs. Pender and Spicer were admitted as members of the Society, was reconsidered. It was found that both were under age. It was ordered that the certificates given them be filed with the Secretary until such time as they shall become twenty-one years of age, and that then the licenses shall be issued.

The President announced as the special order of business for the hour the election of a new Board of Medical Examiners. Nominations were declared in order. Drs. Royster, Knox, Alston, McKee, Bellamy, W. R. Wood, Murphy, of Morganton, Lilly, of Concord, Frank Duffy, G. W. Long, of Graham, Picot, W. R Wilson, A. B. Pierce, McDonald, G. G. Thomas, Ennett, Payne, Reagan, Speight, McNeil and Budd were nominated, and the ballotting occupied considerable time. At the end of the second ballot the following gentlemen were found to be elected, and it was so announced by the President: Drs. Bellamy, Knox, Frank Duffy, Reagan and Murphy.

The election of the two remaining members of the Board was deferred until the next day.

Dr. William C. Whitfield offered resolutions expressing the thanks of the Society to Dr. Eugene Grissom and Dr. F. T. Fuller for their elegant hospitality; also to the principals, teachers and pupils of St. Mary's and Peace Institute for the admirable entertainments, literary, musical and calisthenic, given the Society. The resolutions were adopted by a rising vote.

Dr. Lewis, of Lumberton, exhibited before the Society a bed of his own invention, the special advantage of which was an apparatus attached for the turning over and about in bed of corpulent persons.

The President announced the following committees:

Committee on Nominations—J. W. Jones, Wake Forest; S. S. Satchwell, Rocky Point; Richard H. Lewis, Raleigh; G. G. Smith, Concord; W. R. Wood, Halifax.

Committee on Revision of By-Laws—Thomas F. Wood, of Wilmington; P. E. Hines, Raleigh; E. B. Haywood, Raleigh; G. A. Foote, Warrenton; J. B. Dunn, Raleigh.

There being no further business before the meeting, a motion to adjourn was made and carried.

SECOND DAY—EVENING SESSION.

The members of the Society assembled in the Hall of the House of Representatives at 6:30, to listen to the address of Dr. Julian S. Baker, of Tarborough. Dr. Baker's address was heard by a large and intelligent audience, and the frequent applause accorded the speaker made evident the fact of the excellence of his address, extracts from which are given below. The speaker was introduced by President Pierce. The subject of his address was: "The Relation of the Medical Profession to Modern Science." Dr. Baker said:

"Since the first evidence of intellectual activity of the human race the mind of man has busied itself with the consideration of certain questions regarding his existence, which in our time, with all our boasted civilization and enlightenment, are still unanswered to the satisfaction of every one. Ancient philosphers put forward many systems by which, for a time, man's origin, his mission and his place in nature were determined. Modern philosophers grapple with the same problems with the advantages of accumulated experience and a higher degree of intellectual culture. It is natural that, to the medical profession, which has had such intimate relations with life in its varied aspects, some degree of authority should be ascribed, and upon the members of that profession certain duties imposed in regard to the solution of the disputed questions. For an intelligent conception of this relation, and our duties in regard thereto, a consideration of modern philosophical ideas and scientific facts is necessary, so that, with this knowledge, an appeal may be made to our own reason, independent of the fanaticism of this or that particular system.

"The doctrine of evolution is the embodiment of scientific fact, ancient and modern. It is the resultant of contending philosophical systems from the beginning of man's intellectual activity till now. It is a product of the scientific researches of our own generation, and in its gradual development from the ideas of the ancients to its present condition of comparative perfection, its own principle of 'the survival of the fittest' is exemplified.

"The operation of universal, everlasting, unchangeable law has wrought a process of development which this doctrine professes satisfactorily to reason to explain. Primarily its application is only to the explanation of organic change; but in its broadest sense it is the 'universal theory of development which embraces the whole domain of human knowledge.' And here let us draw a distinction between science and philosophy—science is a knowledge of the laws, principles and relations: it is classified knowledge. Philosophy is the system by which such knowledge is attained: a science of first causes.

"The facts of biology, as determined by embryology and comparative anatomy, has served as the means by which the fundamental laws of race progress are formulated. A history of the individual existence is a condensed history of the race. Recent researches in these sciences have revealed certain facts beyond dispute, facts which anyone may observe for himself, tending to show a structural unity of the higher and lower forms of organisms, thereby supporting the hypothesis of a few simple forms at the beginning.

"It appears that the form next preceding the human, which the ovum assumes in its development, is that of an ape. It becomes necessary to give our attention to this organism, and, as the ancestral form of our species has passed through similar transformation, according to this hypothesis we should consider the catarrhine, or man-like apes, with due respect. Most men are shocked at such consideration, and turn with scorn from any philosophy which traces his genealogy in the line of the apes. It awakens a sudden and profound mistrust, says Huxley, of 'time-honored theories and strongly-rooted prejudices regarding his own position in nature and his relation to the under world of life.'

"Thus the modern scientist claims to have determined man's place in nature, and the conclusion is based on physical facts that he has descended from the apes, and is only a degree higher in the process

of development through which all things are still passing, and which has been in operation through all time ; that he is descended from the apes follows as a 'special deduction from the general induction law of the descent theory, according to the stern commands of inexorable logic.'

"Thus the evolutionist traces the development of the individual and by virtue of the analogy between the life of the individual and that of the human race, he attempts an extension of the doctrine to establish general laws of development, which embrace every organic object, regarding the higher forms as gradually arising out of the lower. The totality of existence by an orderly succession of events or a process of becoming, is under the influence of the same laws as individual existence.

"Fanaticism in evolutionary ideas leads to blind atheism, just as fanaticism in other branches of philosophy obscures the tenets of the whole system. Evolution is not atheism. Darwin himself considers it not only compatible with an original creation, but to supply 'a higher conception of divine attributes than the doctrine of special creation.'

"The question arises, what have we as physicians to do with it? What relation has it to our profession? In our professional relations we are brought in contact with all classes and conditions of people, the high and the low, the learned and the ignorant, religious persons and infidels, the rich and the poor, the fool and the knave, and in such position much can be done to the furtherance of truth and accuracy of ideas. It is not our duty to stifle the investigation of nature' slaws by throwing around us the cloak of religious fanaticism, veiling truth with superstition and orthodoxy, unless, after a careful analysis of fact, reason dictates such a course. The foundation of modern science is facts ; the special deductions from these facts we must accept just so far as reason dictates. As scientific men, we must attempt to determine truth without prejudice, and having determined it to our own satisfaction, disregard what others may say unless additional facts prove our conclusions erroneous. The motive is not to break down established opinions, not the destruction of religious creeds. The motive of the true scientist 'is the extension of man on all sides into nature till his hands should touch the stars, his eyes see through the earth, his ears understand the

language of beast and bird and the sense of the wind, and through his sympathy heaven and earth should talk with him.'"

At the conclusion of the address of Dr. Baker a motion was made by Dr. Knox that the thanks of the Society be tendered Dr. Baker for his most admirable address, and that it be referred to the Committee on Publication.

Adjourned until 10 o'clock A. M. Thursday.

THIRD DAY—MORNING SESSION.

The Society met at 9 A. M. on Thursday, 22d May, 1884, Dr. A. B. Pierce calling the meeting to order.

Dr. J. D. Roberts introduced Dr. Robert B. Stovall, a delegate from the Medical Society of Virginia, and editor of the *Atlantic Medical Monthly*, Richmond, Virginia, and invited him to a seat upon the floor. Dr. Stovall accepted, and invited the North Carolina Medical Society, or as many members as could be present, to attend the next annual meeting of the Virginia Medical Society at Rawley Springs, Virginia.

Dr. H. M. Alford, of Greensboro, tendered his resignation, which was accepted upon the payment of all dues to the treasurer.

Dr. W. J. H. Bellamy submitted the following report:

To the President and Members of the North Carolina State Medical Society:

GENTLEMEN:—Your committee, appointed at the Convention of 1883, to confer with the North Carolina Pharmaceutical Association upon the best means to accomplish the object set forth in the following resolution: "That the druggists and physicians be earnestly requested to keep all poisons in bottles or packages of such shape and character so as to be as readily recognized by the sense of touch as well as of sight"—beg leave to report that they presented this matter to the Pharmaceutical Association at its meeting in Wilmington in August, and asked for a committee of conference from that body. Messrs. W. H. Green, J. K. McIlhenny, of Wilmington, and E. M. Nadal, of Newbern, were appointed as the members of this committee. It was not deemed wise by these committees to report the respective conventions advising a special device to mark

poison bottles or packages, but to ask your permission to place the matter in the hands of the Board of Pharmacy for such further action as they might think best. Your committee agreed, therefore, to report the following resolution, upon which, with this report, they ask your action.

Resolved (the North Carolina Pharmaceutical Association concurring), That all bottles or packages containing poison, as set forth in Schedule A and B Pharmacy Act, shall have such a guard attached (besides the skull and cross-bones label, as provided for in said Pharmacy Act) as will always appeal to the sense of touch of the dispenser and be immediately recognized as marking a package containing a poison, whenever the dispensing druggist shall remove it from its place of deposit for purposes of sale.

Your committee ask that they be continued for another year, with instructions to report your action to the North Carolina Pharmaceutical Association, with the suggestion that the Board of Pharmacy shall notify this body what action they may take upon the matter.

Respectfully submitted,

F. W. Potter,
W. J. H. Bellamy,
Geo. Gillett Thomas.

Dr. Almand Holmes moved that the report be accepted and the committee allowed further time. Adopted.

REPORT OF BOARD OF CENSORS.

Dr. N. J. Pittman presented the following report:

The Board of Censors, to which was referred the matter between the Academy of Medicine of Raleigh and Dr. W. H. Bobbitt of the same place, make the following report: That it is the opinion of the Board that no point of ethics of the State Medical Society being involved, it is not within the province of the functions of the Board, and therefore that the Board does not feel at liberty to make any suggestions in a case which is purely local.

Respectfully submitted,

N. J. Pittman,
W. C. McDuffie,
R. F. Lewis.

Dr. Walton arose and made the following statement:

"I rise, Mr. President, to state that while the Board of Censors

in the case of Dr. Bobbitt report that they have no jurisdiction in the matter, that a majority of the members of this Society claim that he has acted in accordance with the rulings of this Society, and in making examinations for benevolent orders he is doing just what this Society has given him permission to do."

ESSAYIST FOR 1885.

Dr. P. E. Hines reported Dr. Hubert Haywood essayist for 1885.

Dr. Hill, of Goldsborough, made a motion to the effect that the ruling of the Society at its Wilmington meeting, whereby members of the Society are allowed to fix their fees for examination of applicants for admission into mystic orders, benevolent associations with an insurance feature, etc., to suit themselves, be rescinded, and that an arbitrary fee of five dollars be charged in all cases.

Dr. Bellamy, in reply to the motion of Dr. Hill, to consider the repeal of the motion to exclude the secret societies, such as the Knights of Honor, from the category of life insurance institutions, remarked that the Knights of Honor were not only charitable and benevolent institutions, but beneficent, doing the good and grand work of such societies as the Masons and Odd Fellows, and still more, in providing for nursing and feeding the sick and providing for the widows and orphans in a substantial way. They are not insurance companies, but like a family circle, have their secrets and sympathies, and he who crosses the threshold without permission is an intruder. This benevolent, yea beneficent institution, has no president, no agents, with high salaries and useless expenses. They provide in an economical and easy way something for the edification, comfort and health of its members while living, and substantial aid to the widow and orphan child. It is wrong and unjust to speak of this institution as an insurance company. The resemblance is not at all striking, its features being quite different in many respects.

After remarks by several others present, the resolution was put to the house and lost, with only two dissenting voices.

A valuable paper upon Obstetrics and Gynæcology was presented by Dr. Joseph Graham for Dr. Simmons Jones, of Charlotte, the chairman of the Section, it was referred to the Committee on Publication.

REPORT OF COMMITTEE OF NOMINATIONS.

Dr. R. H. Lewis, Secretary Committee of Nominations submitted the following report :

President :

Dr. W. C. McDuffie, Fayetteville.

Vice-Presidents :

Dr. James McKee, Raleigh.
" Thos. E. Anderson, Statesville.
" W. H. Whitehead, Battleborough.
" A. G. Carr, Durham.

Secretary :

Dr. Walter C. Murphy, South Washington.

Treasurer :

Dr. R. L. Payne, Jr., Lexington.

Orator :

Dr. L. Julien Picöt, Littleton.

COMMITTEE ON ESSAYIST.

Dr. P. E. Hines, Raleigh.
" N. J. Pittman, Tarborough.
" Geo. A. Foote, Warrenton.

COMMITTEE ON PUBLICATION.

Dr. Thomas F. Wood, Wilmington.
" Geo. G. Thomas, Wilmington.
" Wm. T. Ennett, Burgaw.
" Walter C. Murphy, South Washington.

BOARD OF CENSORS.

Dr. W. J. Love, Wilmington.
" Thomas F. Wood, Wilmington.
" W. W. Lane, Wilmington.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

Dr. L. Julien Picöt, Littleton.
" A. G. Carr, Durham.
" Jno. A. Collins, Enfield.

Dr. G. W. Long, Graham.
" W. T. Ennett, Burgaw.
" H. T. Bahnson, Salem.
" J. B. Jones, Charlotte.
" John Whitehead, Salisbury.
" N. J. Pittman, Tarborough.
" T. D. Haigh, Fayetteville.
" J. B. Dunn, Raleigh.

DELEGATES TO VIRGINIA MEDICAL SOCIETY.

Dr. R. L. Payne, Lexington.
" G. F. Lucas, Point Caswell.
" Geo. A. Foote, Warrenton.

DELEGATES TO SOUTH CAROLINA MEDICAL SOCIETY.

Dr. Joseph Graham, Charlotte.
" W. H. Lilly, Concord.
" R. F. Lewis, Lumberton.

DELEGATES TO INTERNATIONAL MEDICAL CONGRESS.

Dr. Eugene Grissom, Raleigh.
" C. J. O'Hagan, Greenville.
" W. G. Thomas, Wilmington.

DELEGATES TO AMERICAN PUBLIC HEALTH ASSOCIATION.

Dr. J. W. Jones, Wake Forest.
" J. L. Nichloson, Richlands.

Respectfully submitted,

R. H. Lewis,
W. R. Wood,
G. G. Smith,
J. W. Jones,
S. S. Satchwell,
} Committee.

Dr. Hines invited the new Board of Medical Examiners to meet the retiring Board at 12 :30 P. M. in room 61, Yarborough House, to receive the papers and make other necessary arrangements for the work before them.

Hon. Montford McGhee, through a written communication, invites the members of the Society to visit the Department of Agriculture.

Dr. G. W. Long offered a resolution as follows :

Resolved, That this Society tenders Dr. L. Julien Picöt and Dr. A. G. Carr the retiring Secretary and Treasurer, its sincere thanks for their faithful and very efficient services.

The resolution introduced by Dr. Weaver, of Buncombe, on Tuesday was called up for action. Dr. Weaver's motion read as follows :

Resolved, That there be appointed by the President a committee of seven—two from the eastern, three from the central and two from the western portion of the State, whose duty it shall be to memorialize our next Legislature, by petition or otherwise, urging upon that body, in as strong terms as possible, the justice of and necessity for an amendment of the present law relating to the practice of medicine and surgery, found in section 3,122 and 3,132, chapter 34, of the Code, so that it shall be taken and accepted that any person who shall practice medicine or surgery, or any branches thereof unless he shall have been first licensed so to do by the Board of Medical Examiners of the State of North Carolina, shall be guilty of a misdemeanor.

A discussion ensued.

Dr. Weaver remarked that the resolution was intended not so much to protect the medical profession—we were able to take care of our interests ourselves—but to protect the ignorant and deluded masses from these vampires who have bedragged and besmirched the profession and who have been sucking the life's blood from the ignorant. He was sure that the next Legislature would support it and suggested that the question be made a political issue in the election of members of the Legislature in the next campaign.

Dr. Pool, of Rowan, felt authorized to say that as far as future legislation was concerned, his county would cheerfully aid in any law for the better protection of the health of the State.

Dr. Lewis expressed himself as opposed to the resolution. He thought it unwise to meddle with the law in force now until the masses were educated up to the point of demanding this penalty clause. He thought that any attempted interference in the matter would result disastrously in the loss of the present law on the subject.

Dr. Foote did not agree with Dr. Lewis. He thought that the Medical Society had educated the public mind up to the desired point. Wherever it was known the present law had met with earnest approval and support and the people already recognized the necessity for a more complete law on the subject.

Dr. Satchwell expressed an earnest approval of Dr. Foote's sentiments. "We cannot go backward" said he, "onward and upward must be our course and we must not listen to advice actuated by cowardice or fear. We should take a higher stand even than the one proposed. We should not petition, we should demand this measure not for ourselves but for the people. We should take a stand with Alabama in elevating the profession and protecting the people. This is no time to ask the question shall we succeed? We may be defeated but we should none the less make the effort."

Dr. R. B. Haywood spoke briefly on the subject agreeing with Dr. Lewis that any attêmpt to enact this penalty clause would result in the loss of the present law.

Dr. Thomas F. Wood said: He thought the present time very opportune for moving towards the perfecting of our law. We had been the pioneers, in this work, and for a quarter of a century had struggled manfully with an imperfect law, showing clearly that we could achieve more success. We could not afford now to stand still, while our neighbors, stimulated by our example and experience had gone beyond us. As long as the neignboring states had no licensing law we might remain content, feeling satisfied that our present law would work out for us all the protection the people needed. But last year Virginia had made a law, which appeared to be strong, and having a penalty clause, and going into operation, he believed, in October of this year, the result would be that North Carolina would become an asylum for all the unsuccessful candidates from Virginia, and so damage our people, and interfere with the work we have undertaken. He believed that if this point was brought properly to the attention of the Legislature, it would serve as an effective argument. Things had changed materially in ten years. Formerly we stood alone nursing the meagre talent entrusted to us. Since then the conduct of some Medical Colleges had been such as to induce Illinois, West Virginia, Virginia, and Alabama to create licensing boards. Surely in our State, where we have had for so many years an active example of the good to be done by such a Board, we have accumulated some influence. Surely we have, and what other States have done is also an index of public opinion on the necessity or this law. It was not well to go too far ahead of public sympathy and support, but this we now have in a great degree. Our friends in other States are watching

with great interest our management of this law, and in perfecting it we do our State good, and we give encouragement to the profession of the country.

Dr. Faison spoke against the resolution.

Dr. Haigh moved to lay the motion on the table, a motion which was carried by a vote of 28 to 26.

Dr. W. H. Cobb offered the following resolution which was adopted unanimously :

Resolved, That as members of the Medical Society of North Carolina, we pledge ourselves not to admit to our offices as students any persons who cannot satisfy us, by personal examination, that their preliminary education is sufficient to enable them to pursue the study of medicine.

The chairman having announced the hour as that for the holding of the conjoint session of the State Medical Society and the Board of Health, Dr. J. W. Jones took the floor and moved that inasmuch as the President of the Board of Health, Dr. Whitehead, is sick that Dr. S. S. Satchwell be invited to take the chair. Adopted.

Business before the Conjoint Session having been declared in order, Dr. Wood, Secretary of the Board of Health stated the interests and objects of the Board to be in a retrograde condition in North Carolina, while the opposite condition is true of other States. He thinks a crisis is imminent in the history of the Board and that whether it will live or die depends on our success in procuring more money from the State to carry out the objects of the Board.

He furthermore stated that the sum now given by the State was, of course, nothing, and only by the strongest efforts had life been maintained. The burden had been borne long enough, perhaps. If the people did not care to have their sanitary interests promoted you could not make them do it. Theoretically the State gives protection to its people, and the matter of sanitation and the arrest of contagious diseases were important items. But what are we to do if there is not enough general intelligence to endorse laws for this sort of protection. It was true we could educate the people up to this point in time, but how long could a Board without money maintain a corps of educators for this purpose? It had just come to the point when the present Board could not and would not carry the burden any longer without money.

The machinery of our law was well devised in most respects, and if it was liberally interpreted in all the counties as in the county of New Hanover, for instance, the central board could manage to exist. But the County Superintendents in many counties had been starved out, and most of them being unpaid, did not have the stimulus to induce them to report to the Secretary. A few had kept up their reports regularly, as a matter of personal pride, and also out of consideration for the earnest request of the Secretary.

During the year little more had been done than to issue pamphlets on the subject of city sanitation. One of these pamphlets—"A Year's Campaign against Dirt" was largely distributed. The old reports have been applied for, and a new edition has become necessary.

There was now on hand in the Secretary's office several hundred pounds of Vital Statistics Reports, awaiting to be tabulated. The former reports were almost valueless, and there is but little encouragement to employ a force at the personal expense of the Secretary, upon such carelessly made up material.

Dr. Jones discussed the situation of affairs as they stand agreeing with Dr. Wood in the necessity for more money. Dr. Haigh also made remarks upon the resolution as did Dr. McDuffie the Superintendent of Health from Cumberland county.

Reports were made by the Superintendents of Health of Warren, Cumberland and Green counties.

Dr. Satchwell then offered the following resolutions which were adopted:

Resolved, That the President of the State Medical Society be requested to appoint a committee to go before the Legislature and request an adequate appropriation to be used by the Board in behalf of the high and humane objects of the Board.

Resolved, That the State Boards and County Superintendents of Health are requested to meet in Raleigh at some appropriate time during the coming session of the Legislature for the purpose of consultation and of advancing the interests of the State Board of Health; the time to be fixed by the Secretary of the State Board.

Dr. J. W. Jones offered the following resolution which was adopted:

Resolved, That a committee be appointed to watch the complexion and attitude of the next Legislature, and if in their opinion it should be advisable to ask for a change in the law of our Medical Board of Examiners, they should use their discretion to have a penalty clause enacted.

The President appointed the committee as indicated by this resolution: Drs. J. W. Jones, Eugene Grissom, Geo. A. Foote, Walter C. Murphy, S. S. Satchwell, A. W. Knox.

Dr. G. T. Strickland read his report of the chairman of the Section on Materia Medica and Therapeutics which was referred to the Committee on Publication.

The Society then adjourned to meet again at 4 o'clock.

THIRD DAY—AFTERNOON SESSION.

Meeting called to order at 4 o'clock.

The President announced the following appointment of

CHAIRMEN OF SECTIONS.

Surgery.—Dr. J. A. Stevens, Clinton.

Pathology and Microscopy.—Dr. John M. Manning, Pittsborough.

Obstetrics and Gynecology.—Dr. H. B. Weaver, Weaverville.

Diseases of Children.—Dr. Geo. L. Lloyd, Tarborough.

Materia Medica and Therapeutics.—Dr. W. O. McDowell, Scotland Neck.

Practice of Medicine.—Dr. S. S. Satchwell, Rocky Point.

Dr. Pool moved that Dr. Jno. Whitehead as Chairman of the Section on Microscopy and Pathology be requested to send his report immediately to the Publication Committee, he being necessarily detained at home in consequence of the illness of his father. Carried.

Dr. Geo. A. Foote spoke on the subject of "rabies canina," asserting his belief that there had never been a case south of 86° of latitude and that the disease only occurred in cold weather. He expressed an utter disbelief in the "mad stone" declaring that it was a myth.

Remarks on the same subject were made by Drs. Picöt and Carr.

Dr. R. L. Payne, Jr., offered the following resolutions:

WHEREAS, The character of the papers presented to the Society for the past few years, have not reached the standard of excellence that this Society should desire; therefore, be it

Resolved, That the North Carolina Medical Society offer a premium of a fine case of surgical instruments, case worth $50, for the best clinical record for the period between this meeting and the next, to be decided by a committee, appointed by the President on the first day of the meeting subsequent to the passage of this resolution.

Resolved, That the papers not securing the prize, shall be given to the Committee on Publication, and if accepted, shall be published in the Transactions of this Society with the name and address of the author.

Resolved, That this prize shall be presented to the successful author immediately after the delivery of the annual oration.

The new officers were then installed.

Dr. McDuffie on assuming the duties of presiding officer for the coming year, said :

" *Gentlemen of the Medical Society:*

" In accepting the position to which your kind partiality has assigned me, I can only at present return you my thanks for the high honor, and assure you that while I cannot hope to fill it with the ability, of many of my predecessors, I shall not be behind any of them in my zeal to advance the best interest of the Society, or in my determination to maintain the dignity belonging to this exalted station.

" In my annual address I hope to map out some lines for reforms that I think are needed."

The retiring President, Dr. Pierce, then delivered his farewell address subject " Some of the Duties of the Profession." Happy in the relation of his subject the doctor's address was filled with sentiments more admirable and at its close the hearty applause gave evidence of the appreciative attention of his hearers.

On motion of Dr. McKee, the thanks of the Society were tendered the retiring President and his address was ordered to be printed by the Society.

NEW MEMBERS FOR 1884.

The following new members signed the Constitution :

Dr. F M Garrett, All Healing Springs.
" Leroy Chappell, Forrestville.
" W G Freeman, Murfreesborough.
" W C Whitfield, Seven Springs.
" W J Jones, Goldsborough.
" Jas A Burroughs, Asheville.
" Frank W Brown, Greenville.
" Julian A Smith, Wilmington.
" John L Macumber, Wilmington.
" W D Pender, Robersonville.
" John W Long, Randlemann.
" Wm Edwards, Castalia.
" P J Richards, Eagle Rock.
" G L Robinson, Smithfield.
" M R Adams, Cool Springs.
" J H Cook, Durham.
Dr. G T Sikes, Grissom.
" J M Manning, Pittsborough.
" F T Fuller, Raleigh.
" Wm B Pritchard, Wilmington.
" H P Murray, Wallace.
" T C McSwain, Fayetteville.
" V A Whitley, Norwood.
" John B Beckwith, Smithfield.
" E T White, Oxford.
" G W Purefoy, Chapel Hill.
" A M Herron, Charlotte.
" M H Futrell, Woodland.
" B F McMillan, Plainview.
" J L Grimsley, Snow Hill
" R F Gray, Winston.
" M P Perry, Macon.

TREATMENT OF MASTITIS BY RUBBER TISSUE.

Dr. H. T. Bahnson gave a verbal account of a very satisfactory plan of treating mastitis. He applied a piece of rubber, such as the dentists use for preventing moisture in the mouth during the operation of filling cavities in the teeth. A perforation is made for the nipple and the whole is secured by tapes over the shoulder and around the waist. The rubber applies itself smoothly, and gives a good amount of support, which is followed by prompt relief. This plan, he believed, to be more effectual than the old plan of strapping, and worthy of extended trial.

Dr. Frank Duffy presented a paper on Congenital Occlusion of the Rectum. On motion of Dr. Wood it was referred to the Committee on Publication. Carried.

Dr. Wood also moved that all papers which had been crowded out for lack of time be referred to the Committee on Publication. Carried.

Dr. Geo. A. Foote, offered the following resolution:

Resolved, That the Medical Society of North Carolina return its thanks to the Raleigh Amateurs for the excellent rendition of the "Operetta Olivette" at Tucker Hall on Wednesday evening given complimentary to the Society and by them so much enjoyed. Carried.

Dr. McKee offered the following resolutions both of which were unanimously adopted:

WHEREAS, The object of the address of the retiring President should be expected to be fraught with suggestions and admonitions promotive of good to the profession at large and particularly to the advancement of the Society; be it

Resolved, That in order to secure the best assemblage of the delegates and members, the address be delivered on the first day upon the organization of the Society, and that the newly inducted President appoint a Committee of three to take those suggestions in consideration and report on it before the close of the meeting.

Resolved, That the thanks of this Society are eminently due and are hereby tendered the retiring President for the patient and efficient manner in which he presided over the deliberations of this meeting and that he be requested to furnish, the Committee on Publication, a copy of the able and eloquent address, for publication, on retiring from the chair.

Dr. W. O. McDowell offered the following resolution:

Resolved, That the thanks of the North Carolina State Medical Society are hereby returned to the Raleigh Academy of Medicine for the hospitable care, and many courtesies during the session of this convention.

The resolution was seconded by Dr. J. W. Jones and it passed unanimously.

Dr. T. D. Haigh said that at this meeting social features had predominated to the exclusion of the usual scientific work and moved that hereafter nothing be allowed to interfere with our usual morning and evening sessions.

Dr. P. E. Hines said in this matter we could not bind future meetings and moved that it be postponed. Carried.

On motion of Dr. Thomas F. Wood, the Society adjourned to meet in Durham, N. C., on the third Tuesday in May A. D. 1885.

A. B. Pierce, M.D., President.

L. Julien Picöt, M.D., Secretary.

REPORT OF THE BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners met in Raleigh on the 19th day of May and continued in session until the night of the 22d of May. Thirty-six applicants appeared for examination, of whom thirty-four were duly licensed, after giving satisfactory evidence of competency and good moral character. The following applicants passed their examinations successfully:

Dr. R. E. Lee Dixon, Wilmington.
" B. W. Best, Johnson's Mill.
" Julian A. Smith, Wilmington.
" W. C. Whitfield, Seven Springs.
" Frank W. Brown, Greenville.
" Louis L. Sasser, Smithfield.
" John L. Macumber, Wilmington.
" Mark P. Perry, Macon.
" William B. Pritchard, Wilmington.
" W. E. Richardson, Eagle Rock.
" H. P. Murray, Wallace.
" James A. Burroughs, Asheville.
" E. T. White, Oxford.
" G. T. Sikes, Grissom.
" G. J. Robinson, Smithfield.
" J. M. Manning, Pittsborough.

Dr. T. C. McSwain, Fayetteville.
" B. F. McMillan, Plainview.
" William Edwards, Castalia.
" T. B. Williams, Ridgeway.
" V. A. Whitley, Norwood,
" J. T. J. Battle, Earpsborough.
" M. H. Futrell. Woodland.
" John W. Long, Randlemann.
" M. R. Adams, Cool Springs.
" W. G. Freeman, Murfreesborough.
" R. B. Henderson, Middleburg.
" J. E. Grimsley, Snow Hill.
" G. W. Purefoy, Chapel Hill.
" A. M, Herron, Charlotte.
" R. F. Gray, Winston.
" Herbert C. Williams, Leachburg.
" W. D. Pender, Robersonville.
" James Spicer, Goldsborough.

The next meeting of the Board will be held in Durham, on Monday before the third Tuesday in May 1885. The following is the order of examinations:

H. T. Bahnson, M.D.,
Secretary Board of Medical Examiners of N. C.

The old and new Boards of Medical Examiners met in the Yarborough House Thursday noon. Dr. Peter E. Hines, President of the retiring Board offered his congratulations to the incoming Board, and formally surrendered the office to his successors.

Dr. Henry T. Bahnson, Secretary and Treasurer, transferred his books, and a balance of $482.10 to the new Board.

Dr. Hines invited the new Board to ask any questions which they desired upon the business appertaining to the methods pursued. A free colloquial interchange of experience closed the meeting, the old Board adjourning *sine die*, and the new board proceeded to organize

THE NEW BOARD OF EXAMINERS.

There were present at the meeting of organization: Dr. Wm. R. Wood, Scotland Neck; Dr. A. W. Knox, Raleigh; Dr. Francis Duffy, Newbern; Dr. P. L. Murphy, Morganton; Dr. Willis Alston,

Littleton ; Dr. W. J. H. Bellamy, Wilmington. Absent: Dr. J. H. Reagan, Weaverville.

Dr. Wm. R. Wood, was elected President, and Dr. W. J. H. Bellamy, Secretary and Treasurer.

The act of General Assembly establishing the Board was then carefully read and discussed.

The different branches of medicine were assigned by lot as follows:

Surgery—Dr. Wm. R. Wood.

Chemistry and Pharmacy—Dr. W. J. H. Bellamy.

Anatomy—Dr. P. L. Murphy.

Practice of Medicine—Dr. Willis Alston.

Materia Medica and Therapeutics—Dr. Francis Duffy.

Physiogy—Dr. J. A. Reagan.

Obstetrics and Diseases of Women—Dr. A. W. Knox.

The Board instructed a committee to procure a seal.

The Board adjourned to meet in Durham at 9 o'clock A. M., on Monday before the third Tuesday in May, 1885.

Wm. R. Wood, M.D., President.

Wm. J. H. Bellamy, M.D., Secretary.

Raleigh, N. C., May 23, 1884.

The North Carolina Board of Health adjourned on the 23d of May, 1884, to meet again upon the call of the President. The next regular meeting will take place in Durham on the third Tuesday in May, 1885. M. Whitehead, M.D., President.

Thomas F. Wood, M.D., Secretary.

REVISED ROLL OF MEMBERS IN THE ORDER IN WHICH THEY SIGNED THE CONSTITUTION.

*Those marked * were present last meeting. Marked (D) denotes death.*

Dr. N J Pittman,* Tarborough.
" J B Jones Charlotte.
" R B Haywood* Raleigh.
" Jas A McRae, Fayetteville.
" Jas B Dunn,* Raleigh.
" Will G Thomas, Wilmington.
" S S Satchwell,* Rocky Point.
" J R Mercer, Tarborough.
" E B Haywood,* Raleigh.
" A B Pierce,* Weldon.
" H W Faison,* Faison's Depot.
" Allman Holmes, Clinton.
" E A Anderson, Wilmington.
" Hugh Kelly, (D) Statesville.
" F M Henderson, Concord.
" J J Summerell, Salisbury.
" P E Hines,* Raleigh.
" M Whitehead, Salisbury.
" J G Ramsay, Rowan Mills.
" R H Winborne, Edenton.
" J K Hall, Greensborough.
" Geo A Foote,* Warrenton.
" Eugene Grissom,* Raleigh.
" R L Payne, Lexington
" F M Rountree, Kinston.
" E F Ashe, Wadesborough.
" H B Woods, Rowan Mills.
" Chas J O'Hagan, Greenville.
" J W Jones,* Wake Forest.
" J F Long, Washington.
" John K Ruffin, Wilson.
" C W Knight, Tarborough.
" J B Hughes, Newberne.
" J C Gidney, Shelby.
" Wm R Wood,* Scotland Neck.
" J H Hicks, (D) Faison.
" M T Savage, Scotland Neck.
" Thomas F Wood,* Wilmington.
" Thomas C Powell, Rocky Mount.
" Geo L Kirby, Goldsborough.
" P A Barrier, Mt Pleasant,
" L A Stith, Wilson.
" J F Shaffner, Salem.
" W T Cheatham, Henderson.
" Elisha Porter, Rocky Point.
" F J Haywood,* Raleigh.
" C R Barron, Toisnot.
" B P Alston, Warrenton.
" J R McCorkle, Mooresville.
" G G Smith,* Concord.
" D N Patterson, Mangum.
" Joel G King, Warrenton.
" J B Sugg, Tarborough.
" H T Bahnson,* Salem.
" Geo N Ennett, Saunders' Store.
" Chas Duffy, Jr, Newberne.
" W W Lane, Wilmington.
" R L Cowan, Rowan Mills.

Dr. R F Lewis,* Lumberton.
" Jas S Robinson, (D) Elizabeth.
" W J Love, Wilmington.
" Jas McKee,* Raleigh.
" L L Alexander, Topsail Sound.
" Willis Alston,* Littleton.
" W J H Bellamy,* Wilmington.
" Geo F Lucas, Point Caswell.
" Walter Brodie, Whitakers.
" A S Jones, Warrenton.
" J L Knight, Tarborough.
" C S Killebrew, Tarborough.
" W T Ennett,* Burgaw.
" W I Royster,* Raleigh.
" G Gillett Thomas, Wilmington.
" V N Seawell, Wallace.
" Geo S Attmore, Newberne.
" S B Flowers, Mt. Olive.
" P W Young, Oxford.
" John McDonald, Washington.
" Francis Duffy,* Newberne.
" L L Staton,* Tarborough.
" T R Germon, Ridgeway.
" A G Carr,* Durham.
" John A Allison, Statesville.
" J R Gaither, Salisbury.
" J M Hadley, La Grange.
" W G Johnson, Farmington.
" W J McLinden, Wadesborough.
" Josh W Vick,* Selma.
" Isaac E Green, Warrenton.
" P L Murphy,* Morganton.
" Joseph Graham,* Charlotte
" J M Miller, Charlotte.
" J L Henderson, Mt Pleasant.
" J R Wilson, Harris' Depot.
" J F Miller, Goldsborough.
" S J Alexander, Randalsburg.
" H K DeArmand, Pineville.
" J P McCombs, Charlotte.
" O P Houston, Mt Ulla.
" S J Gilmer, Concord.
" John Fink, Concord.
" W H Lilly, Concord.
" Thos J Moore, Richmond, Va.
" E S Foster, Louisburg.
" A A Hill, Lexington.
" J H Baker, Tarborough.
" J B Hall, Scotland Neck.
" J M Richardson, Lincolnton.
" T D Haigh,* Fayetteville.
" L J Picot,* Littleton.
" David N Sills, Castalia.
" John A Drake, Battleborough.
" W C Murphy,* South Washington.
" W J Cooke, Louisburg.
" E J Thorpe, Rocky Mount.
" D W Bulluck, Whitaker's.

Dr. W H Whitehead,* Battleborough.
" C W Eagles, Sparta.
" R A Sills, Nashville.
" R H Speight,* Tarborough.
" C E Moore, Battleborough.
" H G Land, Poplar Branch.
" R J Grimes, Robersonville.
" W C McDuffie,* Fayetteville.
" B W Robinson, Fayetteville.
" P S Peteway, Enfield.
" Henry Tull, Kinston.
" A V Budd,* Egypt.
" R R Robeson, Kyles Landing.
" W A Murdock, Mt Ulla.
" Jas W McNeill,* Fayetteville.
" J D McMillan, Lumberton.
" W H McKinnon, Fayetteville.
" Jos Hollingsworth, Mt Airy.
" Robt W Glenn, Greensborough.
" Beverly Jones, Forsythe County.
" Nat S Henderson,* Pelham.
" Jeff Scales, Staten Island, N Y
" Geo W Long,* Graham.
" R H Lewis,* Raleigh.
" Geo W Graham, Charlotte.
" J D Roberts,* Goldsborough.
" L H Hill, Germantown.
" W W Wilhelm, Mooresville.
" W R Wilson, Townesville.
" E Nelson Booker, Leachburg.
" N S Siewers, Salem.
" L G Hunt, Huntsville.
" Jas E Griffith, Clemmonsville.
" W P Mallett, Chapel Hill.
" R M Alford, Greensborough.
" F W Potter, Wilmington.
" J F Harrell, Whiteville.
" W P Exum, Wayne County.
" D Stuart Lyon, High Point.
" A M Lee,* Clinton.
" J R McClelland, Mooresville.
" R J Noble,* Selma.
" Wm H H Cobb,* Goldsborough.
" J H Tucker, Hendeson.
" C G Bryant, Rich Square.
" E H Hornaday,* Willow Green.
" Paul B Barringer, Charlotte.
" I Wellington Faison, Mt Olive.
" John A Pollock, Kinston.
" A W Knox,* Raleigh.
" John W Smith, Reidsville.
" C C Peacock, Wilson.
" D A Cheek, Greensborough.
" J A McLean, McLeansville.
" J G Ector, Friendship.
" Hubert Haywood,* Raleigh.
" J M Covington, Rockingham.
" W R Hollingsworth, Mt Airy.
" O P Robinson, Arkansas.
" C E Bradsher, Hurdle's Mills.
" R W Thomas, Thomasville.
" S W Stevenson, Mooresville.
" H T Trantham, Salisbury.
" W P Beall, Greensborough.
" W A Coble, Brick Church.

Dr. A D McDonald, Wilmington.
" S R Jones, Charlotte.
" C M Glenn, Greensborough.
" Joseph J Cox,* New Garden.
" D M Prince,* Laurinburg.
" J A Sexton,* Raleigh.
" S B Evans,* Statesville.
" N McJohnston, Durham.
" J T Sledge, Greenville.
" R H Hargrove, Robersonville.
" J T Winston, Youngsville.
" C A Swindell, Greenville.
" W L Abernethy, Hickory.
" John Chapel Walton,* ——.
" J M Tomlinson, Bush Hill.
" Julian M Baker,* Tarborough.
" T E Balsley, Greensborough.
" J L Gunn, Yanceyville,
" Thomas E Anderson,* Statesville.
" Richard Dillard, Jr, Edenton.
" V St Clair McNider, Jackson.
" L M Powers, Plymouth,
" W C Galloway,* Snow Hill.
" K J Powers, Camera, Pender Co.
" J McQ Stansill, Rockingham.
" J T Schonwald, Wilmington.
" R H Adams,* Gastonia.
" L W Hunter, Charlotte.
" W W K Anders, Gravel Hill.
" M W Hill, Statesville.
" E T Speed, Tarborough.
" L Hussey, Warsaw.
" W P Mercer, Toisnot.
" H S Noreom, Washington, D C.
" Ed De La R King, Goldsborough.
" S J Montague, Winston.
" J L Nicholson,* Richlands.
" John Whitehead, Salisbury.
" T W Harris, Chapel Hill.
" H T Ivy, Fayetteville.
" A B Huntley, WadesborougL.
" D B Frontis, Lexington.
" J A Collins, Enfield.
" C M Pool,* Salisbury.
" John Irwin, Villa Franca.
" Geo H West, Newton.
" G E Matthews, Ringwood.
" T S Burbank, Williamston.
" Thomas Hill,* Goldsborough.
" J C Shepard, Scotts Hill.
" R A Hauser, Bethania.
" B F Whiteside, Hickory.
" Percy T Noreop, Asheville.
" S P Waldo,* Cary.
" Wm L Crump, South River.
" D J Cain, Asheville.
" M D Phillips, Dalton.
" John G Hardy, Asheville.
" J M Lyle, Franklin.
" J A Reagan, Weaverville.
" R S Baynes, Bushy Fork.
" F Broyles, Asheville.
" T B Robertson,* Neuse.
" H W Lily, Fayetteville.
" G W Fletcher, Shufordville.

Dr. S H Lyle, Franklin.
" J Anderson,* Calahan.
" E Crowell, Lincolnton.
" R J Wilson, Swannanoa.
" M H Fletcher Shufordville.
" Thomas M Jordan,* Hillsborough.
" W L Hilliard, Asheville.
" C Winston, Franklinton,
" T A Crowell, Monroe.
" R L Payne, Jr,* Lexington.
" T F Meisenheimer,* Big Lick.
" W C Brownson,* Asheville.
" T F Pharr, Concord.
" W D Hilliard, Morganon.
" J W Moose, Mt Pleasant.
" A D Pair,* Eagle Rock.
" J K Gilkey, Marion.
" J H Faison, Faison.
" W L Reagan, Ivy.
" H B Weaver,* Weaverville.
" J C Craigmiles, Marshall.
" A J Battle,* Earpsborough.
" J R Staton, (D) Tarborough.
" R S Lacky, Amity Hill.
" John H Williams, Asheville.
" C W Woolen, Randlemann's.
" W A Woolen, Randlemann's.
" J R Irwin, Alexandriana.
" A R Wilson, Greensborough.
" K P Battle, Jr, Chapel Hill.
" Henry B Ferguson, Halifax.
" J T Strickland,* Thomasville.
" J B Gunter,* Durham.
" Geo S Lloyd, Tarborough.
" R S Young, Matthews.
" Wm G Bradshaw, Lexington.
" Geo A Smith, Princeton.
" C A Meisenheimer, Mt Pleasant.
" M C Hunter, Huntersville.
" W P Whittington, Burnsville.
" C F Anderson, Mocksville.
" J J Clingman, Huntsville.
" W W Faison, Goldsborough.
" W O McDowell,* Scotand Neck.
" D R Schenck, Hillsdale.
" N H Street, Pollocksville.
" J A Stevens,* Clinton.
" T S Royster, Williamsborough.
" Isaac M Taylor, Chapel Hill.
" Jas M Hodges, Mt Olive.
" S H Rogers,* Raleigh.
" W L Hudson,* Hawley's Store.

Dr. M O Bunn, Wilmington.
" Oscar L Gregory, Halifax.
" Wm H Bobbitt,* Raleigh.
" F R Harris, Henderson.
" H H Whitaker, Battleborough.
" J H Scarborough, Trenton.
" N P Bodie, Palmyra.
" G C Edwards, Hookerton.
" E M Summerell, Salisbury.
" K M Ferguson,* Manchester.
" D B McNeill, Shallotte.
" H T Bass, Tarborough.
" N M McLean, Shoe Heel.
" J H Anderson,* Tarborough.
" P C James, Pitt County.
" J C Braswell, Whitakers.
" G L Wimberly, Tarborough.
" B L Long, Hamilton.
" P J Macon,* Warrenton.
" H I Clark, Hamilton.
" F M Garrett,* All Healing Springs.
" Leroy Chappell,* Forrestville.
" W G Freeman,* Murfreesborough.
" W C Whitfield,* Seven Springs.
" W J Jones,* Goldsborough.
" Jas A Burroughs,* Asheville.
" Frank W Brown,* Greenville.
" Julian A Smith,* Wilmington.
" John L Macumber,* Wilmington.
" W D Pender,* Robersonville.
" John W Long,* Randlemann.
" Wm Edwards,* Castalia.
" P J Richards,* Eagle Rock.
" G L Robinson,* Smithfield.
" M R Adams,* Cool Springs.
" J H Cook,* Durham.
" G T Sikes,* Grissom.
" J M Manning,* Pittsborough.
" F T Fuller,* Raleigh.
" Wm B Pritchard,* Wilmington.
" H P Murray,* Wallace.
" T C McSwain,* Fayetteville.
" V A Whitley,* Norwood.
" John B Beckwith,* Smithfield.
" E T White,* Oxford.
" G W Purefoy,* Chapel Hill.
" A M Herron,* Charlotte.
" M H Futrell,* Woodland.
" B F McMillan,* Plainview.
" J L Grimsley,* Snow Hill
" R F Gray,* Winston.
" M P Perry,* Macon.

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HONORARY MEMBERS.

Dr. W T Howard, Baltimore, Md.
" O F Manson, Richmond, Va.
" R Dillard, Edenton, N C.
" F D Lente, (D) Cold Springs, N Y.
Dr. John H Hill, Goldsborough, N C.
Prof Lewis A Sayre, MD, New York.
Dr. John D Bellamy, Wilmington.

ANIMAL HEAT; ITS SOURCES AND VARIATIONS.

The Annual Essay delivered before the Medical Society of North Carolina, at Raleigh, May 21st, 1884.

By J. L. Nicholson, M.D., Richlands, Onslow County, N. C.

Mr. President and Gentlemen of the Medical Society:

Thanking you for the honor done me at our last meeting, as your essayist I purpose calling your attention, directly and without preface, to the subject of "Animal Heat; Its Sources and Variations." A subject which, because of its importance and its obscurity, has presented in all ages, from the ancient theorist to the modern investigator, a broad field for useful research and wild speculation.

Without aiming at originality upon such a subject, when I have presented to you a brief historical sketch of its developmental, and given at greater length the present knowledge respecting it, together with a review of some of the evidence upon which this knowledge rests, I shall have completed my effort.

In ancient medical literature, we find various theories and speculations as to the cause and nature of this striking phenomenon; most of which are purely conjectural and without the slighest evidence in their favor. Hippocrates, we are told, considered the production of animal heat a great mystery, and bestowed upon it many attributes of the Diety (Morrell). Perhaps the most generally accepted theory among the ancients was that which gave the sole power of generating heat to the heart, and held that this viscus was prevented from being consumed only bv the cooling effect of respiration. After it became generally known that heat, in the inorganic world, resulted from the union of chemical agents, physiologists for nearly two centuries assigned the origin of animal heat to the action of acids taken into the organism, upon the alkalies formed therein. Von Helmont, Sylvius and many others, believed it the result of an effervescence which took place between the bile and the pancreatic juice. Another class of philosophers, equally wise, claimed that it was the product of putrefactive fermentation constantly going on within the system. Following Harvey's discovery Boerhaave and Douglas declared that the heat produced by the friction of the circulation was

eminently sufficient to maintain the bodily temperature. Dr. Black, a noted chemist and philosopher of the 18th century, strongly advocated the theory—first suggested by John Mayow, of Bath, in 1683—that the lungs, contrary to what had been previously taught, were not a heat depressor, but that they were the great and only heat producers in the animal organism. He held that the greater part of the latent heat of the inspired air became liberated in the air-cells, and was then taken up and carried by the blood to every part of the body. Crawford,* a strong advocate of this doctrine, said: "The blood, in its progress through the system, gives out the elementary fire which it had received from the air in the lungs; a small portion of this fire is absorbed by those particles which impart the inflammable principle to the blood; the rest becomes redundant, or is converted into moving and sensible heat." It is useless for us to say that all such theories are utterly untenable in the light of modern physiology.†

Prior to the brilliant researches of Lavoisier, near the close of the last century, scarcely a single idea had been advanced that threw light upon the solution of this important physiological problem. This observer, who has been justly called "the father of modern chemistry," put forward the theory, "that respiration is merely a slow combustion of carbon and hydrogen, which is in every way similar to that which takes place in a lighted lamp or candle; and from this point of view animals which respire are true combustible bodies which burn and consume themselves."‡ The lungs were called the human furnace, and the oxygen of the inspired air, together with a hydro-carbonaceous substance secreted from the blood, the fuel that supported the vital flame. That the lungs were the precise seat of combustion, was opposed by La Grange and a few others, but was very generally accepted up to 50 years ago. In 1837, Magnus, by demonstrating with the mercurial air-pump the presence of both oxygen and carbonic acid, in the arterial as well as in the venous blood, proved its fallacy.

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*A. Crawford, M.D., F.R.S.L., etc., Experiments and Observations on Animal Heat and the Inflammation of Combustible Bodies. P. 368. London: 1788.

†For the above sketch I am chiefly indebted to Robt. Morrell "Inaugural Dissertation on Animal Heat," New York, 1810, and Dunglison's Physiology. Volume 2. 1838.

‡Quotation from paper of Seguin and Lavoisier, 1789, by A. Flint, Jr. "The Source of Muscular Power," New York, 1877.

With this knowledge of the relation existing between the chemical phenomena of respiration and the generation of heat, Liebig, to whom we are largely indebted for the development of physiological chemistry, divided food into two classes, the nitrogenous or plastic, and the non-nitrogenous or respiratory. The former, he held, was used almost entirely for the building of muscles and other proteid tissues of the body, while the latter class, by directly entering in combination with the oxygen of the inspired air, were the essential elements in the production of heat. From the fact, however, as established by later research, that proteid food may give rise to the formation of fat, a non-nitrogenous substance, this classification, though at one time almost universally accepted, now meets with much disfavor.

While heat undoubtedly stands on the same line with urea, water, and carbonic acid, as the result of chemical movements in the living organism (more or less associated with oxidation) the idea, that this process is a simple and direct combustion of certain calorific elements, in no way differing from the same process in the inorganic world, is no longer held. The experiments of Bert,* and of Ritter, upon dogs prove that increased oxygenation of the blood invariably causes a very decided depression of body-heat, as well as a decrease in tissue metamorphosis. Senator† has shown that the ratio between the quantity of heat produced and the carbonic dioxide given off is not proportional at all times; and, further than this, Pettenkofer and Voit‡ have demonstrated a very striking disproportion between the amount of oxygen absorbed and of carbonic acid eliminated, under different circumstances. These observers found that the greater part of the oxygen used in twenty-four hours was taken into the system during the night, but that the greater part of the carbonic acid was given off during the day. They proved also that severe exercise, although it caused a very decided immediate increase in the discharge of carbonic acid, had scarcely any immediate influence on the amount of oxygen absorbed during the day. The result of these experiments, together with the fact that oxygen exists in the tissues only in a latent state (Foster), while carbonic dioxide is prominently present, strongly corroborates the opinion, that the

*London Medical Record, April 2, 1873.

†Cited by J. G. Dalton, Human Physiology, p. 306. New York. 1875.

‡Journal Anat. and Phys. Nov., 1867.

production of heat is not the result of a simple oxidation, but that this process goes on, as do all other nutritive processes, under the control of the nervous system.

Since, then, the essential sources of heat in the living organism are exclusively chemical processes, though far more complex than such as occur in simple inorganic combustion, the question naturally presents itself, "What are the substances constantly consumed in thermogenesis?" Undoubtedly, the chief elements are carbon, hydrogen, and nitrogen. According to a series of experiments made by Barrel,* an adult man oxidizes, on an average, in 24 hours, 289 grammes of carbon, and 18.6 grammes of hydrogen. More than nine-tenths of this carbon is entirely consumed and is converted into carbon dioxide before it leaves the body. While it is true that the heat must come, whether directly or indirectly, from the food, and that the carbo-hydrastes and fats are preëminently heat producers, it is none the less true, that the albuminoid constituents give rise to a very considerable portion of the body heat. A careful estimate of the amount of heat produced in 24 hours, from a mixed diet, attributes at least one-fourth of the whole product to the oxidation of the albuminoids. From the fact, however, that albuminous bodies escape from the organism only partially oxidized, their heat value is very much diminished.

It may now be asked "when is heat generated?" Necessarily, wherever chemical transformations occur, whether this be in the alimentary canal, in the blood, or in the bioplasm of the ultimate cell. Undoubtedly, a certain amount of heat is produced in the blood, by the immediate oxidation of food taken in excess of the needs of the body. There is abundant experimental evidence showing that the production of heat varies closely with the quantity, as well as with the kinds, of food ingested. Again, according to the theory of Le Conte, as set forth and advocated by Dr. John B. Elliott,† as combustion is held to precede assimilation, not merely as a chronological fact, but as a dynamical necessity. The building force by which tissue construction is carried

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*Lehman's Physiological Chemistry, pp. 488-9. 1855.

†"Combustion and Assimilation." New Orleans Med. and Surg. Jour. November, 1878.

Cited by Dr. E. P. Hurd, "Animal Heat and Fever." Boston Med. and Surg. Jour., June 26, 1879.

on is born, so to speak, of the transformed forces emerging in combustion." The chief seat, however, of heat-production is extra sanguine. It is estimated by Dulong that about four-fifths of the heat normally produced is due to those decompositions which are called tissue-metamorphosis. As proof of this, Bernard has shown, by the use of the thermometric needle, that the temperature of solid tissues is invariably greater, by a fraction of a degree, than that of the traversing blood. Furthermore, each separate organ and tissue is well known to have a temperature peculiarly its own, which is in direct proportion to the activity of its chemical changes. For example, not only is this true of the cerebrum as a whole, it is true of its parts also. For it has been clearly shown by Broca, Gray, and others, that the temperature of its frontal lobes is decidedly greater than that of its occipital.

The muscular tissue, forming as it does from one-third to two-fifths of the whole weight of the body, and being the seat of very active and extensive metabolic changes, especially during exercise, is universally regarded the chief seat of thermogenesis. That there is a decided increase in heat production during muscular activity, there is no lack of the most positive evidence. Becquerel and Breschet* found by means of a thermo-electric multiplier that each contraction of a muscle is accompanied by an increase of its temperature, ranging from 1.8° to 2.6°. It is estimated by Hiedenhain that about one half of the energy liberated in the contraction of any individual muscle assumes the form of heat.

The ratio, however, according to other observers, is not definite, but varies under different circumstances.†

According to modern investigation, the energy daily expended in the form of mechanical labor results from the transformation of a certain amount of body heat. For heat and motion, not less than matter, are indestructible, whether in the inorganic world or in the living organism ; but they may be transformed one into the other, and always without loss. What are the quantitative relations subsisting between them? The investigation of Mr. Joule and others show that one Fahrenheit unit is exactly equal to 772 foot-pounds of motion ; or, in other words, the heat required to raise one pound of water one degree Fahrenheit scale is the exact quantity produced by the fall of a pound

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*Simon : "The Chemistry of Man." Vol. 1, p. 127. Berlin. 1842.

†See Foster's Physiology. Second American Edition. 1881.

weight through a space of 772 feet. One heat-unit, then, produced in the animal body may, according to this theory, be converted into 772 foot-pounds of force; and, conversely, this amount of force is equivalent to to one Fahrenheit heat-unit. It is estimated that, of the total energy set free in the body during a good day's, work, between one-fifth and one-sixth is expended in the form of motion, the remainder leaving the body in form of heat.*

We come now to consider the quantity of heat produced in the body. To ascertain this, physiologists have employed two methods. The first consists in estimating the physiological heat-value of the food daily consumed; and the second, indirectly measuring the heat given out by the body in a definite time. In employing the first method, scientists rely entirely upon certain experiments made by Prof. Frankland some twenty years ago. This observer, by causing their complete combustion in pure oxygen, very accurately determined the total heat value of different articles of food. By assuming that the heat evolved by the oxidation of any given substance is the same under all circumstances, provided only that the same products result, the heat ultimately generated in the living body, from a diet whose total heat-value is definitely known, is ascertained by making the proper deduction for the heat-value of the partially oxidized waste-products.

From experiments made upon himself, Prof. Ranke† estimated that, during the use of a certain diet which exactly maintained his nutritive equilibrium, the daily heat production amounted to 2,200 kilogram heat-units; while, by the use of more abundant food, he found that "the activity of the thermogenetric processes of his body could be increased to 2700 heat-units per diem." (One heat-unit according to this standard is the quantity of heat required to raise a kilogram of water.—2,201 pounds—one degree centigrade—1.8° F).

To determine the amount of heat eliminated from the body in a given time, Senetor in 1872 made an "elaborate series of experiments upon dogs, he enclosed them in a copper cage properly supplied with air, and surrounded by a known volume of water. After making with the greatest accuracy all necessary corrections for changes in temperature of the animal's body, air, etc., the increase in

*M. Foster: A Text Book on Physiology. Second Am. Ed. 1881. P. 576.

†Taken from paper of Burdon-Sanderson, found in H. C. Wood's work on "Fever—A Study in Morbid and Normal Physiology," 1880. Pp. 237-8.

the temperature of the water, which in the beginning varied from 80° to 85° F., (26.5° to 29° C.), proved, as the average result of five experiments, that 2.34 heat-units for every kilogram weight of the animal's body were hourly produced; or, in other words, 4.21 Fahr. heat-units are generated for every pound weight per hour. The somewhat similar experiments of Dr. J. C. Draper, upon his own person, closely agree with the conclusion arrived at by Senetor. The results of such experiments, however, on account of the abnormal condition in which the body is placed, are not considered entirely reliable by some observers. Liebermeister, for instance, states that the quantity of heat given off from the body to a bath, whose temperature is 86° F. (30 C.) is for the first half hour double the amount of the usual loss while out of the bath. Further, it has been shown (Winternitz, Ackerman) that the temperature of the various strata of an open bath, may, notwithstanding a previous thorough mixture, vary several tenths of a degree. Nevertheless, it is estimated from experiments under both methods, and with a fair degree of accuracy, that an average adult will produce, during 24 hours of comparative rest, from 2,500 to 3,000 kilogramme heat-units, or about four times as many Fahrenheit heat-units. During very active muscular exercise, however, this quantity is, on account of excessive tissue-metamorphosis, increased at least 50 per cent.; during sleep, on the contrary, the reduction is not less remarkable.

Having now considered the essential sources of heat, and the quantity generated in varying conditions, it is pertinent to enquire by what means the organism is enabled to maintain its normal temperature. This means must necessarily be a power that controls both the production of heat and its loss. Inasmuch as nearly all the heat produced leaves the body by the skin, it would be impossible to maintain the normal body-heat under the ordinary changes of external temperature, unless there were some internal power to govern this elimination. Such a power exists in the vaso-motor system. For direct observation has shown that the quantity of heat lost by radiation and conduction and evaporation may vary widely, according to the state of contraction or dilatation of the cutaneous capillaries. To this controlling influence of the vaso-motor mechanism was formerly attributed the entire involuntary power of the organism to preserve in health a fixed temperature. That it does exert a powerful influence in this direction, we have the satisfactory evidence,

afforded both by common observation and by the effect of injuries and operations upon the nerve centres. The recent and very able investigation of this question by Prof. H. C. Wood, as recorded in his masterly work on, "Fever: A Study in Morbid and Normal Physiology," very conclusively shows that paralysis of the chief vaso-motor centre, resulting from wounds of the medulla, causes a very decided temporary increase in the dissipation of heat, and a continued decrease in heat production. He says: "the primary cause of the lessened heat-production is vaso-motor paralysis, which probably acts directly and also indirectly, by causing an excessive loss of heat and such a lowering of the internal temperature, as to check chemical reactions in the body." This observer found as the result of a series of calorimetric experiments upon seven dogs, that section of the spinal cord above the origin of the splanchnic nerves was followed by an average decrease of 43 per cent. in the production of normal heat. Indeed, there is no lack of evidence establishing the proposition that destruction of this central vaso-motor centre, which is located in the medulla, is followed by general vaso-motor paralysis and a decided depression in the thermic functions of the body.

From the fact however, that section of the medulla at its junction with the pons Varolii is followed by a steady and very decided increase in heat production, notwithstanding the vaso-motor system is in no way injured, many physiologists have been led to conclude, that there exists somewhere in the brain a special nervous mechanism, which has the power to regulate within certain limits, as may be required by the variations in peripheral loss, the oxidative processes in the organism. The effect of refrigeration upon the body, causing according to some observers, a marked increase in the actual production of heat and of CO_2, affords very striking evidence in support of this hypothesis.

Thus far, we have reviewed that part of our subject which pertains especially to a state of health. Your attention is now directed to the abnormal variations in body heat, observed in that condition termed fever. For a better comprehension of our present knowledge upon this point, I have thought it not out of place to trace briefly the development of this question from very early times.

The importance of the state of bodily temperature at a factor in disease was perfectly appreciated even by ancient medical observers. Hippocrates, considering the increase of the natural heat of the

body as the very essence of the febrile state, found his divisions of the varieties of the disease upon the degree and the distribution of the heat. According to his theory, the different forms of fever were due to the excess of one of the four humors, blood, phlegm, yellow and black bile, while the increased heat and other manifestations of the disease were the result of an effort on the part of nature to expel or neutralize the morbid humor. So well did such a hypothesis satisfy the ancient mind, that Galen, notwithstanding his powerful genius, was content to teach substantially the same doctrine. For many centuries later, indeed, this theory of vitiated humors, variously modified, held undisputed sway in the medical world; and when, at length, it was displaced by a rapid succession of other doctrines, these were equally unsatisfactory, and but little less inconsistent with the true nature of fever. Thus in the earlier part of the sixteenth century, Fernel held that fever was not a simple increase of natural heat, but the result of this factor, combined with heat from putrefaction and from toxic infection, which was thrown out from the heart to all parts of the body. In 1648, Paracelsus assigned as its cause the action of sulphur upon saltpetre. Most peculiar was the opinion advanced by Von Helmont* in the 17th century. According to this theorist, there resides in the stomach a material soul that controls and regulates all the vital processes of the organism. In disease, this soul, which he called the Archæus, is primarily affected, and is consequently unable to govern the functions of the body. Under the prolonged influence of the morbific cause, this Soul becomes enraged, and vitiates the humors: the result of this is fever. The cold stage is the fright of the Archæus, and the increased heat is the expression of his wrath. Others found its origin in the putrefaction of the fluids contained in the nerves. Thomas Sydenham, one of the most original and brilliant writers of the 18th century, advocated the doctrine, that disease, of whatever form, is but Nature's effort to cast out "with all her might the morbific matter for the health of the patient." The great desideratum was the separation of the impure from the pure; the elevation of temperature and the increased heart action accompanying the febrile process were the necessary instruments in Nature's hands for the ac-

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*Cited by E. P. Hurd, M.D., "The Evolution of Medicine." North Carolina Medical Journal, September, 1882.

complishment of this end. Later, Boerhaave and his followers, ignoring the diagnostic value of increased heat, attempted to account for fever, in irritation of the heart and vascular system. By the frequency of the pulse alone, they determined the existence of fever and its gravity. All such notions proving unsatisfactory, the theory was advanced, that the nervous system, instead of the fluids or the circulatory apparatus, was the part primarily affected. Hence, according to the noted doctrine of Cullen, there is produced by the remote cause of fever a marked diminution of the energy of the brain and whole nervous system. The first expression of this debility is the phenomena of the initial chill, and especially a spasmodic, or mechanical, condition of the extreme blood vessels. From the increased movement of the heart and large arteries, consequent upon this condition of the arterioles, there arises an abnormal production of heat, through which the energy of the brain is finally restored and the constriction of the small vessels overcome. This being accomplished, the body resumes its normal temperature. Crawford, in accepting that such a condition of the vascular system was brought about by nervous debility, held that the increased heat of fever was due not directly to this fact, but to the consequent absorption of an abnormal quantity of the latent heat of the inspired air. In opposition to all that had been previously taught, numerous theories had been advanced, and the whole subject had fell into much confusion. At length, however, an effort was made by Broussais, to account for the phenomena of fever on the grounds of local inflammation and sympathy between organs. While Broussais came to consider gastro-enteritis as the primary cause of all febrile diseases, other advocates of the local inflammatory theory were equally positive that some other organ, especially the brain or heart, was the seat of the malady.* Dr. Rush,† on the other hand, doubted that there was an actual increase of body-heat in fever, and accounted for the apparent increase, by means of irregular distribution, arising from convulsive excitement of the blood vessels.

Such was the condition of our knowledge of this phenomenon, in

*For Historical Sketch on Theories of Fever—Chiefly indebted to Manual of Pathology, by Ernst Wagner, First American Edition, 1876, from Sixth German Edition. A Treatise on Fever, S. Smith, M.D. Fourth American Edition, 1838. "The Blood" Wm. Stevens, M.D. London. 1832.

†Benj. Rush, M.D., "Med. Inquiries and Observations," Vol. 3. Pp. 22–29

the beginning of the present century. It will not serve our purpose, neither will the narrow limits of this essay allow us, to pass in review the more recent theories which modern pathological research has shown to be wholly inadequate.

As to the nature and mode of origin of the morbid elevation of body-heat, various opinions are held by the prominent pathologists even of the present day. Inasmuch as the normal production and dissipation of heat is controlled, within certain limits, by the nervous system, it is but reasonable to infer that any abnormal elevation must depend in part, to say the least, upon a disturbance in this regulating influence. That such is the case is held by most observers.

Bernard,* in 1875, claimed that fever results entirely from profound modifications of the vaso-motor system, which he believed to exist as two orders—dilators and constrictors. It has been shown, that vaso-motor paralysis, resulting from section of the spinal cord, is followed by even a greater diminution in body-heat, during the febrile state, than in health. (Wood).

According to Traube, decrease of heat elimination is the chief and primary cause of fever temperature. Through irritation of the vaso-motor centre, brought about by the morbific agent circulating in the blood, a contraction of the superficial small arteries occurs; which, by obstructing a free peripheral circulation, causes an abnormal retention of heat, and a consequent rise in bodily temperature. The chill and accompanying pallor is the expression of a sudden and decided tetanus of the superficial arterioles. The digestive disturbances, stupor, lessened secretion of urine, and other characteristic symptoms of fever arise from a similar condition of the vessels of the various internal organs. Complete relaxation of this arterial tetanus is followed by sweating, increased flow of urine, increase in the giving off of heat, and the resumption of normal temperature.

That there exists such a condition of the vessels of the kidneys at least, during the febrile process, is fully demonstrated by the recent experiments of Dr. Walter Mendelson,† of New York. The

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*Revue Scientifique, August 28, 1875.

† "On the Renal Circulation during Fever. An Experimental Research made at the Pathological Institute of the University of Leipzig, &c." The American Journal of the Medical Sciences. October, 1883. Pp. 380-403.

fluctuations in the size of the kidney, which were necessarily due entirely to changes in the calibre of its blood-vessels, being accurately determined and recorded by the use of the oncometer and oncomograph of Roy, the result of ten experiments upon dogs shows that this contraction is constant and directly proportionate to the intensity of the fever. It was further found that, by tearing away the nerves connected with the kidney, no change whatever occurred in its volume, during the increase of body temperature. Moreover the effect of artificially raising the temperature of the blood entering the brain, the rest of the body remaining of normal temperature, was to produce an almost immediate contraction of the kidney and a gradual rise of the general arterial pressure. While these experiments prove conclusively the contraction of the kidney to be a concomitant of fever, and due to an irritation of the central vaso-motor centre, they also tend to corroborate Traube's explanation of the rise of temperature in disease by means of retention.

While, therefore, it would seem that the accumulation of heat, because of deficient and irregular dissipation, is frequently, if not always an important factor in the causation of febrile temperature, yet that there is a simultaneous increase in heat production is indicated by the abnormal products of combustion. Many pathologists claim that by far the greater part of the morbid heat is undoubtedly due to excessive oxidation of the tissues—especially the nitrogenous tissues. Wagner, to whose elaborate work on Pathology I am greatly indebted for much material in the preparation of this paper, says that, "even under the most unfavorable circumstances, we find in fever patients an average increase in the excretion of urea amounting to more than double what is thrown out in non-febrile states, under otherwise similar conditions." Ringer, in his experimental study of intermittent fever, found that the increase of urea is in direct proportion to the severity of the fever; "so that, given the height of the fever, we can approximately calculate the increase in the urea; and, vice versa, given the increase of urea, we can ascertain the height of the fever." According to other observers, however, there is frequently a striking disproportion between the increase of temperature and the excreted products of metamorphosis.

Additional evidence of an actual increase in the production of heat is furnished by the result of Liebermeister's experiments, obtained by placing fever patients and healthy persons in separate

water baths of 94° F., and observing, after a stated period, the temperature of each bath. Whatever room there may be for error in such experiments as his, a series of calorimetric measurements by Leyden, in which he allowed the leg of the patient to remain two hours in his calorimeter, the water of which had the same temperature as the surrounding air, shows in the most positive manner that the dissipation of heat during the different stages of fever is invariably greater than the normal. He found, in patients whose temperature ranged from 105° to 107° F., that the rate of giving off of heat is almost double the normal standard. It was further observed that the quantity of heat eliminated may be very different with the same temperature of the blood. In favor of the view that increased production is the only factor, may be stated the fact that, during the most profuse sweating in some cases of typhoid, rheumatic, and other febrile diseases, there is no fall in body heat; and, as observed by Ringer,* not only does jaborandi fail to lower temperature in intermittent, but there occurs no rise when the effect of the drug has ceased.

It is asserted on the other hand, that the most excessive tissue metamorphosis can possibly produce but a moderate rise in body-heat, so long as the heat-eliminating system remains unimpaired. And, from the fact that the abnormal discharge of urea may precede, as well as accompany and follow, fever, it is clear that, while nitrogenous metamorphosis is an essential constituent, it cannot be the sole factor in morbid heat; and their relation has not been definitely shown. Again, it is well known that, in certain nervous disorders, arrest of radiation causes very decided elevation with but little or no increase over normal tissue destruction. Mr. Teale reported to the Clinical Society of London, in 1875, a case of shock of the spine, resulting from a fall, which. for seven weeks, was accompanied by an elevation of temperature, amounting to 108° to 122° Fahr. Such a thermometric range, resulting chiefly at the expense of the accumulated material of the body, would imply speedy death. More precise evidence still, that there is only a small increase in normal heat production, is furnished by the fact, that the loss in body-weight during fever is but little, if any, greater than that occuring in the non-febrile state of inanition. If there be a

*London Lancet, October 5, 1878.

lessened giving off of heat in the beginning of disease, it then argues nothing against this theory to say that elimination is increased during fever, for, there being a production above the normal, there may well be an increased dissipation, and yet not proportionate to the augmented production.

From a consideration, therefore, of all the evidence presented, it seems fair to conclude that febrile heat does not wholly result from either of these causes alone, but from a combination of the two; and that their relative importance may vary widely in different cases.

The recent calorimetric experiments of Wood upon dogs seem to establish such a conclusion. He found in pyæmic fever, artificially produced, that the production of heat is usually in excess of the amount formed in health without food, but less than that which can be produced by high feeding. Again, it was demonstrated that notwithstanding sometimes the heat-production becomes very excessive, the elevation of body heat is but little above the normal standard. His elaborate investigation of this question brought him to the following conclusion: "Fever is a complex nutritive disturbance, in which there is an excessive production of such portion of the bodily heat as is derived from chemical movements in the accumulated material of the organism; the overplus being sometimes less, sometimes more, than the loss of heat production resulting from abstinence from food. The degree of bodily temperature in fever depends, in greater or less measure, upon a disturbance in the natural play between the functions of heat production and heat dissipation, and is not an accurate measure of the intensity of the increased chemical movements in the tissue."*

As to the mode of origin of this superfluous production of heat, different explanations are given. From the fact that the normal production of animal heat is influenced by some centre in or above the pons Varolii, which is in some degree independent of changes in the general arterial pressure, increased tissue metamorphosis, and the abnormal heat arising therefrom, is looked upon by many pathologists as the consequence of a weakened or partially paralyzed condition of this so-called "inhibitory heat-centre; such a condition being brought about by the depressing effect of the fever producing agents in the blood.

On the other hand, the existence of calorific nerve centres is wholly denied; and it is held that fever is entirely hæmic in its origin; that

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*Fever: A Study in Morbid and Normal Physiology. 1880. P. 240.

the processes which give rise to normal heat will, if exaggerated, produce fever; that nervous symptoms are always secondary to nutritive disorders; and, finally, that the evidence all points to the hyper-blood and tissue metamorphosis as resulting from the direct irritating effect of the fever poison.

Opposing the doctrine, that all heat processes goes on ungoverned by nerve centres, and upholding the more reasonable view, that the essential life process of heat production through assimilation and disasimilation is directly under nervous control. Dr. John B. Elliott,* of the University of Louisiana, has offered a very interesting and plausible explanation of fever and its phenomena. An advocate of the correlation and conservation of forces, he sets out with the proposition, that, in the healthy body, the transformation of chemical energy goes on mainly in two directions; on the one hand, heat sufficient to maintain the normal temperature; and, on the other, the power that lifts pabulum into tissue. Necessarily, these transformations all go on under the control of the involuntary nervous system; and, in health, they go on regularly. When, however, the nervous system from the effect of a fever poison, becomes so disturbed as to be unable to govern the vital processes, then that energy which should have appeared as tissue building force is manifested in greater or less degree, according to the disturbance, as heat. Thus we have fever. Moreover, with the failure of this tissue building force, there is also a failure of tissue integrity inconsequence. Hence there is waste without repair; and all the secondary phenomena of fever are directly consequent upon such a state.

Many advanced pathologists of the present time hold to a very different theory from any we have recited.

Taking for granted the germ origin of certain diseases, and considering the facts observed in ordinary fermentation. they proceed to construct and triumphantly proclaim what may be called the germ theory of abnormal temperature. Harley,† a prominent advocate of this doctrine, while holding strictly to increased heat-production and admitting that, in idiopathic and traumatic nerve derangements, the theory of inhibitory nerves and tissue metamorphosis may afford a satisfactory solution of the fever problem, fearlessly asserts that such a mode of

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*"A Rational Explanation of Fever and its Phenomena" New Orleans Med. and Surg. Jour., February, 1882.

†The Diseases of the Liver, with and without Jaundice with the Special Application of Physiological Chemistry to their Diagnosis and Treatment." 1882.

origin is wholly inadequate and radically wrong in all infections, contagious and inoculable diseases. He was led to this conclusion by the fact, that sometimes the morbid temperature will continue to rise for a time even after death, thus precluding the supposition of tissue change under nerve control. He believes that, "in as far as the etiology of the increase of bodily temperature in germ diseases is concerned, the nerves, blood, and tissues of the human body merely play the part of passive agents, the abnormal heat of the body being produced by, and totally depending upon, the development, growth, and multiplication of the germs engaged in producing the disease; the pyrexia being in fact the outcome of the germ's life itself, and the rise in the temperature of their host's body nothing else than the chemico-physical effects of the heat developed by the germs respiratory activity." (P. 284). Fermentation, whether occurring within or without the animal body, is the direct effect of living organisms or germs upon organic matter. Tissue changes go on through the germs, which thus by their own vital activity develop heat at the expense of the materials which should go to the support of the tissues of the body; so that the temperature of the human body, whether living or dead, may be maintained above the normal, so long as it contains germs in sufficient numbers and pabulum for their support, just as the temperature of the vat is higher than the surrounding air until fermentation within necessarily ceases. Every pyrexial germ disease, not ending in death, runs a definite course and ends, of its own accord in a certain number of hours or days, following closely the analogy of every species of fermentation, which depends upon the length of the germ's life and, secondarily, upon the supply of organic matter to be consumed.

In regard to the self-limitation of such diseases, however, other observers have advanced more plausible explanations than the above. Certain facts indicate that the products of the vital activity of the germs themselves arrest, after a time, their further development. Many maintain that, the parasites, being propagated only in certain localities where they find a nidus suited to their special nature, their multiplication necessarily ceases with the exhaustion of their nidus; and the fever ends with the natural death of those already existing in the body.

The chief source of the morbid heat, according to the advocates of any form of this theory, is to be found in the very active con-

structive and destructive processes going on in the bodies of the germs themselves. It is held that these, in common with all organisms, require nitrogen and water for their support. These elements they greedily appropriate to their own needs, as fast as they enter the blood. Thereby they cause the great thirst and scanty secretions so characteristic of fever; and also a rapid wasting of the nitrogenous tissues of the body, by robbing them of their proper food But, since the mere starving of tissues cannot increase their heat producing processes, it is claimed that their increased destruction which causes some of the morbid heat, is brought about by the increased activity of the circulation arising from the irritation of all the tissues directly by the germs. Since, however, increased circulatory activity can come about, so far as we know, only through the intervention of the system, the heat even in germ diseases is not wholly the direct effect of the parasites themselves.*.

Having now reviewed my subject as fully as was consistent with the short time that I might be expected to consume, I could well leave each one to his own conclusion. It will not be out of the way, however, to say that, after careful consideration both of the evidence here presented and of much not stated, the whole truth is not centered in any single theory. It can hardly be denied that, in zymotic diseases, fermentation is an independent factor, not to be ignored. But, if the nervous system exercises a controlling influence over the nutritive processes which serve for the production of normal temperature, as well as over the dissipation of heat in health—propositions, I think, that cannot be gainsaid—there is not only no reason for entirely setting aside, in time of disease, a necessary life process, but there is every reason for believing that any morbid elevation of body heat is the consequence, in great part, to say the least, of a disturbance of one or both these functions.

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*For a very interesting discussion of these ideas see Boston Med. and Surg. Jour., May 15, 1879. Paper on "Typhoid Fever: Its Causes and Sources, as Explained by the Germ Theory of Diseases." Alexander R. Becker, M.D.

ABDOMINAL SURGERY.

Report of the Chairman of the Section on Surgery.

Read before the Medical Society of North Carolina, at Raleigh, N. C., May 21, 1884.

By L. L. Staton, M.D., Tarborough, N. C.

As Chairman of the Section of Surgery, it becomes my duty to read an essay, the subject of which has given me no little thought. I deem it pardonable, however, in concentrating my effort upon the all-absorbing subject of the surgical mind of to-day, that of Abdominal Surgery.

Abdominal Surgery may be said to have commenced in 1809, when McDowell operated upon Mrs. Crawford. It is true that long before the Cæsarian section had been performed, colotomy had been done and one or two incisions into supposed ovarian cysts had been accomplished; so too, wounds of the abdominal wall and of the peritoneum and the contained organs were treated by surgical means; but when I say that abdominal surgery virtually commenced with McDowell, I say so because I believe that with him originated an operation, which more than any other, has developed the technique of surgery of the abdomen and has been instrumental in determining the broad principles of treatment which apply to all operations upon the abdomen and its contents. It is a well established fact, that to the gynecologist is due the credit of having extended abdominal surgery to its present dimensions, and ovariotomy —Battey's operation—Tait's operation—The Porro—The Porro-Müller—The Freund's, showed that with care the abdomen can be opened into, with but little risk of death, and with a great relief of symptoms. Other surgeons have not been slow to follow the example set them by the gynecologists as may be seen by the operations of gastrotomy, gastro-hysterotomy, nephrotomy, cholecystotomy and extirpation of the spleen.

Indeed it seems as if there remained no organ in the abdominal cavity which can escape the surgical knife. I have given in another place the history of ovariotomy very fully, for I think that by studying its rise and growth, with its establishment as a surgical operation, we are essentially studying the development of abdominal surgery as a whole. Clay's effort gave ovariotomy a position—

Spencer Wells determined what that position was—and ever since its establishment, abdominal surgery has been making great strides. It is only by comparing the surgery of the past year with ten years ago that we are at all able to judge of the advance it has made. During the past decade, the operations of gastrotomy, gastrostomy, gastro-enterotomy, Porro operation, the Porro Müller operation, Freund's operation and myomotomy have been presented to the profession as formal operations, and the older well established operations have been performed with results never before accomplished. It is, of course, interesting, to enquire what circumstances have led to the great revolution in the domain of abdominal surgery. It may be said in general terms that it is due to an increased knowledge of the abdominal technique and under this may be included :

1st.—Care in preparing the patient.

2d.—Attention to the preparation of the instruments and other operative accessories.

3d.—Boldness in opening the peritoneal cavity.

4th.—The complete arrest of hemorrhage.

5th.—The careful and thorough cleansing of the abdominal cavity.

6th.—The use of antiseptics.

7th.—The employment of intelligent drainage.

8th.—The complete union of the peritoneal surface in closing the wound.

The peritoneum has been a terror to surgeons ; its liability to take on inflammation long deterred surgeons from voluntary wounding it, and indeed the frequence of peritonitis among the causes of death in abdominal operations fully justified the reluctance on the part of surgeons to interfere with it. In all operations upon the abdomen where it has been possible to introduce such proceeding, the peritoneum has been left untouched, notably in the instance of nephrectomy and colotomy. But with increased knowledge and experience of later years, it has been found possible to lessen very much the dangers of peritonitis, and in the hands of such men as Keith, Tait and Battey it may almost be ignored as a cause of death. It may be premature to assert it, but certainly the tendency of the present day is to regard the peritoneum as a membrane of most kindly intentions, if it be treated rightly ; and instead of looking upon it as a

structure, a wound of which is of the greatest importance, it is rather to be regarded as one of the most ready to heal under circumstances at all favorable. In those operations in which the extra-peritoneal method has been employed the peritoneal method has also been done, and in comparing the statistics of the two it will be found that they favor the former. The percentage in favor of the former is, I think, more apparent than real, and those of the peritoneal method will be improved, as this method is more often employed. I make this statement not in objection to the extra-peritoneal operations, for in certain cases they are undeniably practicable, especially in cases of small tumors to be removed, or where an opening into an abscess or the intestine is to be made, but as the incisions in the majority of cases are through the deep muscles of the back, it necessitates working at the bottom of a deep hole, where it is impossible to judge of the number of adhesions to the condition of the remaining abdominal organs, and where arrest of hemorrhage is difficult. For these reasons, in the majority of cases, the incisions through the anterior wall of the abdomen are to be preferred, as giving a more general view of the field of operation, and with such a method no such disaster as the removal of the only kidney can occur. It will also be seen that operations for carcinoma in an organ are much more unfavorable than those for simple tumors of such an organ. Compare the statistics of (1) cancer of the ovaries and ovarian cystoma; (2) gastrectomy for carcinoma and gastrectomy for gastric ulcer; (3) gastrostomy for cancer and for other œsophageal strictures; (4) nephrectomy for carcinoma of the kidney and that for other kidney diseases.

A third point of interest is the rôle played by antiseptics in abdominal surgery. If instead of the word antiseptics we were to say Listerism, it would be easy to determine the position it holds. At the present time but few surgeons employ all of the details of formal Listerism in an operation upon the abdomen—but few surgeons omit to employ some form of antiseptics during such operations. As shown by the history of ovariotomy, the testimony of the majority of operations is very decided in favor of the use of antiseptics in the performance of that operation; and the same remark can be applied to the other operations of abdominal procedure.

Abdominal surgery has made its greatest progress since the estab-

lishment of antiseptic surgery, and in the hand of those who have appreciated its principles, if they have not followed the details exactly as laid down by Lister. The spray may be said to be a thing of the past, although in this country both Polk and Lusk use it during the performance of the operation of ovariotomy. The testimony of German surgeons has been particularly positive as to the benefits derived from strict antisepsis. The complete arrest of hemorrhage and the thorough cleansing of the peritoneal cavity are very strongly insisted upon by Keith and Tait. Tait, I believe, fills the cavity with warm water after the operation has been performed, brings the abdominal walls together, and then rolls the patient's trunk about so the abdominal cavity is thoroughly cleansed and all blood-clots are removed. His insistance upon the complete removal of clots perhaps explains his great success, for he says that to prevent peritonitis it is necessary to remove any material which may undergo putrefaction.

The arrest of hemorrhage is lessened by the use of the Kœberles' forceps, or pincette, which are placed upon every bleeding point and are removed only after the bleeding has ceased, or the vessels have been ligatured. An important point is abdominal surgery, and one in regard to which there is a great difference of opinion, is the value of the complete closure of the peritoneum can be closed, and as it were septic germs can be shut out.

Spencer Wells has endeavored to show in experiments upon animals that a neglect to approximate the cut edge of the peritoneum was detrimental to the success of the operations. In all abdominal operations, however, the intra-peritoneal method of treating the pedicle has not been the most successful one, especially in the operations of myomotomy and the Porro operation. In this, however, the fault does not lie with the closure of the peritoneum, but in the peculiar condition which prevents the return of the pedicle to the abdominal cavity. In all cases, where it is possible so to do, the peritoneum should be united by a continuous cat-gut suture, and then the abdominal walls united by their own sutures. This is particularly insisted upon by Spencer Wells for another reason—he says that by so doing the presence of an abdominal hernia at the point of incision is prevented later on.

Operation.—The operation is to be performed as follows: The room should be of a temperature of about 80 degrees Fahrenheit; everything needed for the operation should be in the room.

The instruments and sponges should be counted, and no one should be allowed to tear a sponge during the operation.

These are then thoroughly cleansed and disinfected. The patient should be brought into as good a condition as possible before the operation, and on the morning of its occurrence she should have an enema to empty completely the lower bowel. The bladder is also emptied. Sometimes a quarter of a grain of morphine is administered hypodermically just before the ether is given.

After the patient is thoroughly anæsthetized the abdomen is exposed, is washed with soap and water and then with some antiseptic wash.

The operator then commences his incisions, beginning exactly in the median line between the symphysis pubis and the umbilicus; he next finds the linea alba and divides everything down to the peritoneum; every bleeding point is secured before the peritoneum is opened, and when the latter is accomplished the sac of the tumor appears. This is usually whitish or grayish white in color, is resistant, and oftentimes shows the evidence of previous inflammations. The hand is now swept gently around the tumor to ascertain if possible its dimensions and whether or not adhesions exist, and if they be present, to what extent. No attempt is to be made to break up adhesions until after the sac has been emptied; this is accomplished by means of a trochar having attached to it a long rubber tube which empties into a vessel upon the floor. If the tumor be multilocular each cyst must be emptied in turn; this can be accomplished by merely changing the direction of the canula so as to pierce the boundary walls of the cysts.

Great care must be taken not to allow any of the cyst contents to pass into the peritoneal cavity.

The next step is the removal of the sac. This is very easily accomplished if there be no adhesions; but if the latter be present in number the procedure is very much complicated.

Many of the adhesions are readily divided with the fingers; others may be divided with the Pacquelin cautery, while others are so dense that the knife is needed in their division.

When the sac has been fully separated upon all sides the pedicle is reached, and this may be treated by any of the following methods, i. e.: 1. The clamp. 2. The ligature. 3. The cautery. The relative merits of these several forms of treating the pedicle have been

discussed fully, and it is only necessary to say here that that method which allows complete closure of the peritoneal and abdominal muscular surfaces is the one to be advocated.

After the removal of the sac and the return of the pedicle to the abdominal cavity, close search is to be made for bleeding points, especially in the adhesions, the hemorrhage must be stopped absolutely by either the ligature or the actual cautery; this done, the abdominal must be cleansed, its "toilette" made by removing all clots and fluid blood, and then the abdominal walls can be brought together. The most approved method is to first unite the edges of the peritoneum with the Lembert's suture; this suture is usually of cat-gut. The abdominal walls are then brought together by three or four deep sutures, preferably of silver wire, a number of more superficial ones of silk. Lastly, the integument is to be stitched together with a continuous silk suture.

Personally I believe the quilled suture to be the one best adapted in the employment of the deep silver wires.

After the approximation of the abdominal walls an antiseptic or compound gauze dressing is applied, and a sufficient quantity of opium administered to relieve pain.

The after treatment entails absolute rest, freedom from pain and complete antisepsis of the wound.

GASTROTOMY FOR MYOFIBROMATA OF THE UTERUS.

This operation is one which is attracting the attention of gynæcologists at the present day in an imperative manner. The removal of myofibromata of the uterus may be accomplished through the vagina; it is only when they are very large that they are removed by abdominal section.

The operation is one of comparatively recent date, and has become established as an operation by the efforts of Pearn, Hegar, Billroth, Kaltenbach and Schrœder.

Bantock applies to the operation the term Hysterectomy. Schrœder calls it Myomotomy. Pearn calls it Hysterotomy. The operation may be limited to the removal of the tumor alone, or if the tumor be not easily enucleated, the uterine body is removed with the cervix usually being left behind.

Methods of Operating.—The usual incision having been made through the median line of the abdominal walls, the tumor with the

uterus is drawn out of the abdomen. A sound is then introduced into the bladder to ascertain its relations, and the cervix is transfixed with two strong wire ligatures at right angles. Below these a curved needle is passed through the cervix, bringing back a double wire. This is then divided and each half is twisted. The tumor and uterus are amputated above the wires. The pedicle is left in the lower angle of the wound, the wires with it.

Some operators drop the pedicle into the abdominal cavity, and perform thus the *intra-peritoneal* operation. There are thus two methods of treating the pedicle, as in ovariotomy, the intra and the extra-peritoneal methods.

The following statistics of the operation are taken from Bigelow's paper upon the subject, published in the *American Journal of Obstetrics*, November and December, 1883 :

"The tumor alone removed 106 times—50 recovered, 50 died.

"The tumor and uterus removed 229 times—124 recovered, 94 died.

"Extra-peritoneal cases 247 times—143 recovered, 97 died.

"Intra-peritoneal cases 84 times—50 recovered, 33 died."

Of individual records, those of Bantock, twenty-two cases, twenty recovered, and Hegar, twelve cases, eleven recovered, are the best.

It will be seen that the mortality is greater than that of ovariotomy, although single records give very good statistics. Bigelow gives it as his opinion that the operation, with further experience, will equal in its statistics those of ovariotomy.

Dr. Schrœder says that the burning question of the day is not of ovariotomy, but of myomotomy. The dispute is confined to the extra and intra-peritoneal methods. The latter success of Schrœder by the intra-peritoneal operation has been brilliant. He lost one case in fourteen.

The extra-peritoneal method, however, is the favorite one at present, and the general statistics rather favor this mode of operating than by the other methods.

HYSTERECTOMY.

The term Hysterectomy means removal of the uterus. The word is, however, very loosely used, and, according to Bantock, "Hysterectomy means the removal by abdominal section of a fibroid or

fibro-cystic tumor of the uterus, whether involving a part or the whole of the body of the uterus."

If the term be used in this restricted sense other names would be invented to designate the entire removal of the uterus for carcinoma and the operation of Porro and Porro-Müller above described; both of these are hysterectomies in the broadest sense of the term.

The removal of the entire uterus is usually performed for carcinoma of that organ.

Two methods present themselves for consideration:

1. Vaginal Hysterectomy.
2. Abdominal Hysterectomy or Freund's operation.

The vaginal method is the older, and according to Fenger, was first performed in this century by Langenbeck, and after that by Hœlsecher, Siebold, Lizars, Bauer, Récamier, Blundell, Delpech, Roux, Eve and Czerny.

Fenger, of Chicago, published in 1882 a successful case.

The operation is performed with the woman lying upon the back in the lithotomy position. The vagina is dilated and the uterus is drawn downwards, and the surrounding parts, the rectum and the bladder, are carefully dissected away with a blunt instrument or with scissors—all bleeding vessels are carefully ligated. When the broad ligaments are reached a ligature is thrown around each one. The ovaries and Fallopian tubes are left if they be healthy. The uterus is then removed. The wound in the peritoneum is sewn up with cat-gut and a tampon is placed in the vagina.

Gross says that Dr. C. Fenger, of Chicago, is entitled to the credit of introducing it (i. e., this operation) to the notice of the profession in this country.

The second method of operating is known as abdominal Hysterectomy, or Freund's operation, because it was first performed by Prof. Freund, of Strasburg, in 1878.

It consists in the removal of the entire uterus by dissecting the anterior surface of the cervix from the posterior wall of the bladder, dividing the broad ligament on each side of the uterus, as well as the peritoneum behind the cervix which connects it with the rectum, and then uniting the cut edges of the peritoneum by means of sutures, and so reclosing the peritoneal cavity.—(Barnes and Garson.)

The incision in this case is the same as that for the removal of an ovarian tumor. It seems difficult at present to decide which is the preferable operation.

The statistics of vaginal hysterectomy are as follows:

"Fenger's statistics—45 cases, 31 recoveries, 11 deaths, 3 unfavorable.

"Schwaltz' statistics—55 cases, 35 recoveries, 20 deaths."

The abdominal hysterectomy does not furnish as favorable statistics, viz:

"Ahlfed, 66 cases, 49 deaths.

"Kleinwachter, 94 cases, 20 recoveries.

"Kaltenbach, 88 cases, 30 recoveries."

The latter operation is the newer operation, and has not yet obtained the benefit which time and experience will furnish it.

It seems to be a general law of abdominal surgery that that operation which admits of reaching the seat of disease the most readily is the preferable operation. Usually such an operation is performed by an incision through the anterior abdominal wall—almost always through the linea alba and then by division of the peritoneum.

Such an incision allows a larger view of the seat of operation, gives readier access to the diseased organ and admits of gentler manipulation. It is true that the peritoneum in such a case is always wounded, and the danger of peritonitis is thereby inverted. But this danger is a small one compared with other risks which may be involved by other methods of operating, and the experience of modern surgery goes to show that with careful precaution peritonitis is by no means as much to be dreaded as it was in former years. I have no doubt that in the years to come abdominal hysterectomy will be the better operation:

1. On account of the reasons above given.

2. Because when the tumor is very large or the vagina small and non-dilatable, it is almost impossible to remove the uterus per vaginam.

CÆSARIAN SECTION.

This term is applied to the removal of a fœtus through the abdominal walls when it cannot be delivered by the natural passages.

The term is sometimes more loosely used, and is extended to include those cases in which a laparotomy has been performed to remove the fœtus from a ruptured uterus or to relieve an extra-uterine pregnancy.

It is said that the name Cæsarian section is derived from the fact that Julius Cæsar was delivered by abdominal incision.

Dr. Harris, of Philadelphia, who has collected the most useful and reliable statistics upon this point, says that the operation cannot be traced further back than five centuries. The first operation was performed in this country in 1827; up to the present time it has been performed one hundred and twenty-four times in this country; in Great Britain one hundred and thirty-four times, and in Italy about two hundred and fifty times.

The operation is performed by making an incision in the median line of the abdomen, finding the linea alba dividing the abdominal walls and peritoneum. The uterus being brought into view, an incision is made in it long enough to allow extraction of the child and placenta. The uterus is then sewed up, its contraction assured, and the abdominal wound is then closed and dressed.

The mortality of this operation has been so great that it has been entirely superseded by a modified operation introduced by Porro, of Milan, and known as the Porro operation, as he styled it, "Utero-ovarian amputation as completive of the Cæsarian operation."

This modified operation has been further modified in nine various ways, as detailed by Harris. The only one which demands serious attention is that of Müller, of Berne, which is known as the Porro-Müller operation.

The Porro operation is as follows:

The old operation is to be first performed, the fœtus removed and the uterus made to contract; then the plan is radically changed; the uterus is drawn through the abdominal wound; its neck is ligated by a wire constrictor tightened by screw power; the organ is cut away above the loop, and the stump is secured in the lower angle of the wound.

The design of this change is to avoid the possibility of the escape of post partum uterine fluids into the abdominal cavity and the dangers consequent thereupon, by converting the uterine wound, with its disposition to gape open, into an open stump external to the body and discharging externally under antiseptic dressings.

The modification of Müller is to make an incision in the abdominal wall that is long enough to admit of the uterus being drawn through it, the wire constrictor is put in and screwed fast, and *then* the uterus is opened and the child is removed, and then the uterus is amputated.

The old Cæsarian operation was very fatal, especially in Europe. Bruden, in 1873, stated that out of 50 cases peformed upon in Paris during a space of eighty years not one recovered.

Of one hundred and thirty-four operations in Great Britain, only twenty-four women and seventy-eight children were saved.

Of one hundred and thirty-three operations in North America, sixty women were saved.

The later modifications show much better results than those of the old operation. Quoting from Harris: "Thus it appears * * * * that the Porro operation carried out as originally designed has saved 46 14.41 per cent. of the cases; the Porro-Müller method, unmodified, has saved 52 16-17 per cent. and the two combined 48 8.29 per cent. of the women and ninety out of one hundred and eighteen children."

SPAYING.

This is ovariotomy in miniature. The term is restricted to the removal of normal ovaries, or those in which the morbid changes have caused but little enlargement of the organs.

In a certain number of cases it is difficult to determine whether the operation be an ovariotomy or merely spaying.

In spaying both ovaries are usually removed. The operation, which is also known as Oöphorectomy, was first performed in 1872 by Prof. Hegar, of Germany; five days later by Lawson Tait, of Birmingham, England, and still later by Battey, of Georgia.

The operation is oftentimes called Battey's operation, as he made it by his labors and success a recognized and justifiable operation. As originally performed by him, an incision was made through the vagina at the bottom of Douglas' cul de sac, the ovary was drawn out, the pedicle ligated and it was then removed.

The operation was modified later on, by making an incision in the abdominal wall; so that here we have two methods of operating, the vaginal and abdominal.

In almost all cases in the present time the abdominal form of procedure is used, and it is interesting to note that Battey himself practiced it in the majority of his last series of published cases.

The mortality by either methods has been about 18 per cent. This is improving. The records of single operations gives much better percentum of recoveries.

The question which is now under discussion is not so much the fatality of the operation, as whether or not the results accomplished justify so radical and dangerous a method of cure.

It cannot be said that this question has been satisfactorily answered up to the present time. The operation is still being performed, and the gynecological world seems to be waiting to give it a fair trial before passing judgment upon it.

OVARIO-SALPINGECTOMY, OR TAIT'S OPERATION.

This operation performed by Lawson Tait is an Oöphorectomy with the addition of the removal of the Fallopian tubes. The operation has been performed by Tait thirty-one times, and was done for the cure of obstinate menorrhagia.

The mortality of these operations has only been 7 7.01 per cent.

STOMACH.

The operations upon the stomach are three in number :

1. Gastrotomy.
2. Gastrostomy.
3. Gastrectomy.

And fourth, perhaps, what is known as Gastro-Enterostomy.

Stimson* says this operation was first performed in 1602 to remove a knife blade from the stomach of a man. It has been done twenty times since—eighteen recovered, two died—both from peritonitis.

1. *Gastrotomy.*—This term is applied in a general way to any incision into the abdominal walls, but in a more restricted sense is used to mean an incision into the stomach. The incision is most often made for the purpose of removing some foreign body, and is only a temporary one, to be closed up after the removal of such a foreign body.† When the opening into the stomach is to be a permanent one the operation is designated as a ————.

2. *Gastrostomy, i. e., a Stomach Mouth.*—This operation is performed for the purpose of introducing food into the stomach when, for any reason, usually impassable stricture of the œsophagus, it cannot enter in the normal manner.

The most frequent causes of stricture of the œsophagus is cancer of that organ, while traumatism, from the injection of acrid poisons, or from wounds, is also instrumental in forming impassable strictures.

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* These statistics are given by L. A. Stimson in the *New York Medical Record.*

† The causes of death are peritonitis, exhaustion and the shock of the operation.

The operation is to be performed as follows: The incision is to be made upon the left side of the median line, parallel with, and one inch from, the left costal cartilages. The lower end of the incision is to terminate near the costal cartilage of the eleventh rib, and this rib can be distinguished easily because it normally crepitates.

After opening the peritoneum the stomach is to be seized and brought to the opening. If it be possible, no air is to be allowed to enter the peritoneal cavity. The stomach having been found and the *greater curvature* brought to the opening, it is stitched fast to the abdominal parietes.

The stitches are usually arranged in two rows and penetrate only the peritoneal and muscular coats.

The stomach may be opened immediately, or better still, after a lapse of five days. It is recommended to wait this length of time in order to secure adhesion of the viscus to the abdomen, and in this way lessen the dangers of peritonitis.

This operation was first performed in 1849 by Sédillot, and up to 1883 it had been performed ninety-three times, seventy-five times for cancer and eighteen times for cicatricial closing from other causes.

Cancer cases—fifty-four died within three weeks after operation; twenty lived three weeks to eight months; two or three still living.

Cicatricial cases—eight died from operation, ten recovered.

Albert published in the Centralblatt für Chirurgie, 1823, ten cases, five deaths and five recoveries.

The first twenty-eight cases of operation died suddenly, the twenty-ninth was done by Sidney Jones and lived forty days.

It will be seen that the mortality in this operation is very large; but "Gastrostomy is in reality not a hazardous operation, the apparently high mortality attending its performance being due to the fact that in the majority of recorded cases it was resorted to when the powers of the patient were greatly exhausted."—*Gross.*

As in all operations for malignant diseases, as compared with those for non-malignant diseases, the statistics here are much in favor of those performed for traumatic stricture of the œsophagus.

3. *Gastrectomy*—Is the removal of the stomach; the term is restricted to the removal of a portion of the stomach, usually the pylorus; in other words, it is the same as resection of the pylorus. This operation was first performed in 1879 by Pearn, on account of carcinoma of the pylorus; since then it has been performed sixteen

times, five times by Billroth. Of sixteen cases twelve died and four recovered.

The operation has been performed twice for perforating gastric ulcer; once by Rydygier and once by VanKleep; both were successful.

In view of the fact that the operation is merely a palliative one, it is doubtful whether the benefits obtained in the minority of the cases justify the great mortality of such an heroic procedure.

The operation consists in removing the cancerous mass and in uniting the duodenum to the stomach.

In some cases it has been found to be impossible to remove the cancerous mass, owing to adhesions, and under such circumstances other procedures are resorted to.

Langenbach practiced duodenostomy, i. e., attached the first portion of the duodenum to the abdominal walls, as in gastrostomy.

Wälfer made an incision into the stomach near the middle of the great curvature and a similar cut into the jejunum and carefully united the opening by sutures. This operation he termed gastro-enterostomy. The patient was relieved by it. A case done subsequently by Billroth died.

OPERATIONS UPON THE SMALL INTESTINES.

The operations upon the small intestines are:

1. Enterotomy.
2. Enterectomy.
3. Laparotomy.

In cases of intestinal obstruction from intussusception, volvulus or fecal impaction, it is impossible to open the abdominal cavity and in certain cases relieve the morbid condition. The greatest success attends those cases where the obstruction depends upon a twisting of the intestine or an internal hernia.

The mortality of this operation has been excessive, and it is always a question whether it is even a justifiable operation. The tables of Ashhurst give the following results:

Thirteen cases of abdominal section to relieve intussusception, eight died, five recovered.

Fifty-seven cases for acute intestinal obstruction from causes other than invagination, eighteen recovered, thirty-nine died.

Adelmann has collected the results of abdominal section in thirty-three cases of acute obstruction from various causes. Fifteen recovered and eighteen died.

In Ashhurst's cases of invagination four were in children under one year of age, all of whom died. It is said that invagination of the intestines, with or without operation, is very fatal in young children.

When the signs of severe strangulation are present (namely, hemorrhage and peritonitis) an operation is contra-indicated.

2. *Enterotomy*—Is sometimes demanded for the removal of foreign bodies from the intestines. The details of the operation do not differ from those of gastrotomy, except that the incision through the integument is to be made over the seat of the foreign body if its position can be accurately determined.

3. *Enterectomy*, or resection of the intestine, is the removal of a portion of the intestinal track for stricture, or for other diseases, oftentimes for gangrene. After the diseased portion has been removed, the ends of the intestine are to be united together by suture.

This operation has been performed by Kœberle, Rydygier, Von Wahl, Rose and others. The statistics of this operation are not available.

In this country in cases of hernia strangulated to sloughing, it is the usual procedure not to resect the intestine, but instead to form an artificial anus at the point of incision.

COLOTOMY.

By colotomy is meant the opening of the colon at any point in its course. The term usually means the forming of an artificial anus in the left lumbar region.

The operation of colotomy was first performed in 1783 by A. Dubois, although it had been proposed by Littré in 1710. The operation was performed upon a new-born child for imperforate anus—the child died ten days later. The second operation was by Duret, in 1793, and was successful; it was performed for the same purpose as that by Dubois.

These operations were both peformed upon the left side in the inguinal region, dividing, during the procedure, the peritoneum. The operations which followed these were done in the same manner, but as peritonitis was a fruitful cause of death, Colbein suggested that the colon be incised from behind at that point not covered by peritoneum. This suggestion was not acted upon until 1841, when Amussat operated successfully in this manner, performing for the first time the extra-peritoneal or lumbar colotomy.

Various modifications of colotomy have been introduced. The bowel may be opened upon the right side.

Dupuytren, in 1818, opened the cœcum, and Von Thaden opened the colon upon the left side, thus making a "lateral colotomy."

The operations for imperforate anus have so much improved of late years that colotomy, as a means of relief in such cases, has been almost entirely discarded.

The operation is limited at the present day almost entirely to relief of carcinoma of the rectum. Of course the operation is merely palliative.

Amussat's, or the extra-peritoneal operation is the one most often performed, although now-a-days with the boldness in opening the peritoneum, engendered by success in the other branches of abdominal surgery, surgeons are looking with favor upon the inguinal method of operating.

The operation is performed as follows :

The patient lies upon the belly over a hard cushion, so that the spinal column is curved backwards.

An incision is then made midway between the last rib and the crest of the ilium, running horizontally and having for its centre the lateral border of the quadratus lumborum. The incision is carried through the external oblique, the internal oblique, the aponeurosis of the transversalis and the border of the quadratus lumborum. This incision opens into the retro-peritoneal fat tissue, when the colon is easily found.

The colon is then stitched fast to the edge of the wound ; it may be opened at the time of operation, or the opening need not be made until inflammatory process has made the colon fast at the points where it has been sutured.

The statistics of this operation have not been published since 1879. At that time Van Erckelens published the results in two hundred and sixty-two cases, compiled from various sources. His results were as follows—cases 26 :

Amussat's operations one hundred and sixty-five—one hundred and one recovered, sixty-three died.

Littré's operations eighty-four—forty-four recovered, thirty-nine died.

Unknown operations thirteen—seven recovered, six died.

The operation is performed often, and the journals contain many

accounts of cases operated upon. Indeed, the operation is often performed without the details of the case being published, a fact which undoubtedly demonstrates that it has lost its novelty and is relegated to the position of an operation regarding whose justifiability there is no longer room for debate.

COLECTOMY.

Colectomy is the excision of the colon for obstruction in that organ ; heretofore it has always been peformed for malignant diseases. It was first done in 1833 by Reybard, of Lyons, and has been done in all eight times—three died, five recovered.

Marshall, in a monograph upon this subject, concluded that the operation of colectomy is not to be lightly undertaken ; but it may nevertheless be predicted of it that it will take a place in surgery.

In the majority of the successful cases only one incision was made into the abdominal cavity ; in the unsuccessful cases more than one was made. The single incision was rendered possible by an ability to correctly diagnose the situation of the tumor before the operation ; in the other cases it was impossible to locate its exact position. After resection of the colon five of the operations were completed by union of the ends of the colon by suture or enterrhaphy, and in the remaining three an artificial anus was formed.

Colectomy is only justifiable when the tumor is small and the surrounding tissues not involved ; in all other cases colotomy is to be preferred.

OPERATIONS UPON THE KIDNEYS.

The kidneys are sometimes wounded or ruptured, and operative interference is necessary to remove the contused tissue or blood-clots ; and to drain the cavity which contains this broken-down tissue. So, too, inflammatory condition of the kidney or a perinephritic abscess may produce a discharge of pus externally through the abdominal wall, forming in this way chronic sinuses which necessitate cleaning them out at times.

The formal operations upon the kidneys are two in number.

1. Nephrotomy, or an incision into the kidney.
2. Nephrectomy, or removal of the kidney.

1. Nephrotomy is performed in abscess of the kidney. The abscess may be perinephritic or pyonephrotic ; when the latter is

the case the underlying cause in the majority of cases will be found to be a renal calculus.

The object of the operation is to make a free opening for the escape of pus, and if there be present a calculus, to remove it.

In operating an incision is to be made similar to that made in colotomy, care being taken to go in *behind* the peritoneum. The tumor is found presenting after the incision has been completed. The pus being excavated, the cavity is thoroughly disinfected, drainage tubes are inserted and the opening is dressed with an antiseptic dressing. Sometimes the kidney is stitched to the wound.

Gross gives the following statistics: Forty cases—thirty-two recovered, eight died.

"It has been uniformly successful when practiced for calculus of an otherwise healthy kidney, and for hydronephrosis, while the mortality has been 18.75 per cent. for suppurating kidneys and 62.50 per cent. for calculous pyelitis."

2. Nephrectomy, or the removal of a kidney, was first performed formally by Simon, of Heidelberg, in 1869. The operation was successful.

Since that time the operation has been performed for tumors of the kidney, wandering kidney, pyelitis, cysts and calculus of the organ.

Gross has collected one hundred and four cases. Fifty-two recoveries, forty-six died, six still under treatment.

In extirpation of the healthy kidney the best results have been obtained, viz: Twenty-four cases, eighteen recovered, six died. Since the publication of these statistics eight or ten cases more have been published, four from New York surgeons—Wylie, Wright, Polk, Weir. The statistics remain about the same. Polk's case died after ten days with symptoms of uræmic poisoning; a post mortem examination revealed that the patient had possessed only one kidney, which had been removed. The occurrence of this anomaly must be taken into account when operating for the removal of the kidney, and the presence of a second kidney must be absolutely determined before the diseased kidney is removed.

The operation is performed by one of two methods:

1. Through the loin.
2. Through the abdominal wall.

The original operation was that through the lumbar region, by an

incision similar to that in lumbar colotomy. By this method the peritoneum was not wounded and good drainage assured.

But the depth of the wound, its small size and the fact that by such an incision the condition of the other kidney could not be ascertained, led to the adoption of the anterior or abdominal incision, which is now most often practiced.

It is true that the statistics favor the operation through the lumbar region, but it seems to me that with more experience in the abdominal operation the statistics will be equally good.

In the abdominal operation the best incision is that at the outer edge of the rectus muscle; after cutting through the peritoneum the intestines are to be held aside, and then a *second* layer of peritoneum is to be incised. The kidney is to be carefully dissected up from its capsule, the ureter and blood-vessels ligated, and the kidney removed.

The success of the operation depends upon the employment of thorough antisepsis.

OPERATIONS UPON THE SPLEEN.

For wounds of the spleen or ruptures of it, the operation of splenotomy is to be performed, that is, to cut off the portion of the viscus which is contused, to restore the remainder to the abdominal cavity and then to leave an opening in the abdominal wall for drainage.

This operation has been performed about thirty times with a mortality of 50 per cent.

A curious operation upon the spleen was performed in 1855 by Dr. Dorsey, of Ohio. His patient was a farmer forty years of age, who had long suffered with violent pains in the region of the spleen. Finding the viscus to be large and adherent, he broke down the adhesions and restored the organ to what he conceived to be its normal position, and the man recovered his health.

Splenectomy is the removal or extirpation of the entire spleen.

It is usually stated that this operation was first performed in 1549 by Dr. Zaccarelli, of Naples, upon a woman twenty-four years of age, and with success. Great discredit has been thrown upon the account of this operation by Franzolini, and by Harris, and it is extremely doubtful if such an operation was ever performed.

Cred says the spleen is to be removed for two conditions:

1. For wounds.
2. For morbid changes in it.

Harris reports thirty-seven cases (authentic) removed up to the present time. Of these, seven recovered, or less than 19 per cent.

Nineteen cases were leucocythæmic spleens—eighteen died ; the remainder were cases of simple hypertrophy; of these six recovered.

The only successful case of removal of a leucocythæmic spleen was performed by Franzzolini, of Italy, in 1881.

THE RELATION OF THE MEDICAL PROFESSION TO MODERN SCIENCE.

Annual Oration read before the Medical Society of North Carolina at Raleigh, N. C., May 21, 1884.

By Julian M. Baker, B.S.. M.D.

Mr. President, fellow-members of the Medical Society of North Carolina, ladies and gentlemen:

Since the first evidence of intellectual activity of the human race, the mind of man has busied itself with the consideration of certain questions regarding his own existence, which in our time, with all our boasted civilization and enlightenment, are still unanswered to the satisfaction of every one. Ancient philosophers put forward many systems by which, for a time, man's origin, his mission and his place in nature were determined. Modern philosophers grapple with the same problems with the advantages of accumulated experience and a higher degree of intellectual culture. It is natural that, to the medical profession, which has such intimate relations with life, in its varied aspects, some degree of authority should be ascribed, and upon the members of that profession certain duties imposed in regard to the solution of the disputed questions. For an intelligent conception of this relation and our duties in regard thereto, a consideration of modern philosophical ideas and scientific facts is necessary, so that, with this knowledge, an appeal may be made to our own reason, independent of the fanaticism of this or that particular system.

In that mythical period of the world's history preceding the birth of Christ, an anthropomorphic notion of the "Beginning of things," seems to have prevailed. A few individuals soon appeared, who, differentiating themselves from the masses, and following that impulse inherent in man to inquire into the source of natural phenomena, were impelled to scientific action. At the time when the civilization and enlightenment of ancient Greece dawned upon the world, when the commercial aristocracy had amassed wealth, and there was leisure for trial; when the wars of Greece and Persia called forth all classes of men to battle, not only with a human foe, but with the forces of Nature, which opposed their long and perilous marches through a strange country, the latent germ of science developed itself.

Men of bold and exceptional power began to see the folly of their anthropomorphism.

The state of things to be displaced to give this germ, just sprung into existence, a firm foundation, may be gathered from a passage of Euripides, translated by Hume: "There is nothing in the world—no glory, no prosperity. The gods toss all about in confusion, mixing everything with its reverse, that all of us from our own ignorance and uncertainty may pay them the more worship and reverence."

Following the campaigns of Alexander, mathematical schools were established at Alexandria. Democritus advanced the doctrine of atoms and molecules, and its partial acceptance at that time checked the progress of that system which ascribed the phenomena of Nature to the caprices of the gods. Some of these principles have, however, been handed down to us and exercise some influence upon the course of modern thought. The doctrine of evolution is the embodiment of scientific facts, ancient and modern. It is the resultant of contending philosophical systems from the beginning of man's intellectual activity till now. It is a product of the scientific researches of our own generation, and in its gradual development, from the ideas of the ancients to its present condition of comparative perfection, its own principle of "The survival of the fittest" is exemplified.

We will then consider some of these ancient philosophies, and notice the stages of its development from them, after which we will analyze evolution, as at present propounded by leading scientific

men, and lastly, consider what the medical profession should do in regard thereto.

It was held that "To construct the universe in idea" it was necessary to have some notion of its constituent parts, and this formed the basis of the "First Beginnings," from which Democritus abstracted by experience the "Pregnant Doctrine of Atoms and Molecules." This laughing philosopher was held in high esteem by Bacon, and "No philosopher," says Lange, a non-materialist, "has been more despitefully used by history!" The principles of his philosophy denote an "Uncompromising antagonism to those who deduced the phenomena of Nature from the caprices of the gods!"* They were, "From nothing comes nothing; nothing that exists can be destroyed; all changes are due to the combination and separation of molecules; nothing happens by chance, every occurrence has its cause, from which it follows by necessity; the only existing things are atoms, and molecules, and empty space—all else is mere opinion; atoms are infinite in number, and infinitely various in form; they strike together, and the lateral motion and whirling, which thus arise, are the beginning of worlds. The variety of all things depends upon the variety of atoms; the soul consists of fine, smooth, round atoms, like those of fire. They are the most mobile of all. They interpenetrate the whole body, and in their motion give rise to the phenomena of Life."† The construction of the human body he made no attempt to solve.

Epicurus next rises as a prominent figure. The fragments of his philosophy which have come down to us, do him great injustice. He attempted to inculcate other principles than "Live while we live, for to-morrow we die." He affirmed that Nature pursues her course according to everlasting laws, the gods never interfering. He adored the gods, but his main object was to free the world from the fear of death: "As long as we *are*, death *is not*, and when death *is*, we are *not*." His relation to the gods Lange considers subjective: "The indication," says Tyndall, "of an ethical requirement of his nature; nor can we read history with an open eye, or study human nature to its depths, and fail to discover such requirement. Man never has been and never will be satisfied with the operation of the understanding alone; hence physical science can never cover all the requirements of his nature."

*Lange's History of Materialism.
†Tyndall's Address at Belfast.

Lucretius, a century and a half later, wrote his great poem on the "Nature of Things," and, in attempting to convert his friend Memnius to the school of Epicurus, maintains by vivid scientific imagery the principles of his great forerunner. "This terror," he says, "and darkness of mind must be dispelled, not by the rays of the sun and the glittering shafts of day, but by the aspect and law of Nature." The first beginnings—the atoms—are indestructible, and into them all things may be resolved at last, the mechanical shock of the atoms being, in his view, the all-sufficient cause of things." He combats the notion that the constitution of Nature has been determined by intelligent design. The inter-action of atoms through infinite time rendered all manner of combinations possible. His conception of atoms falling eternally through space suggested to Kant (its first propounder) the nebular hypothesis: above, below, behind us are worlds without end; and this, when considered, must dissipate every thought of a deflection of the universe from the gods."*

During the period in which these philosophers lived the learning of Athens had dawned upon the world. The sophist had risen, held a temporal sway and given place to Socrates, Plato and Aristotle. Thales, Anaximines and Diogenes had attempted to determine the first principle, and identified it with fire and water—had lain the foundation of Psychology, Biology, Cosmogony and Astronomy, but ended in doubting a criterion of truth. The museum of Alexandria had been founded, Euclid had written his elements and Archimedes had invented his lever and propounded the principle of Hydrostatics. Pythagoras had made his experiments on the Harmonic intervals, while Hipparchus and Ptolemy had made great additions to Astronomy. Anatomy was made a basis of Medicine, and here vivisections first began. Inductions and experiments replaced accidental observation in determining ultimate causes.

The Greek philosophy aimed at determining four questions:

1. "The existence and attributes of God."
2. "The origin and destiny of the World."
3. "The nature of the Soul," and
4. "The possibility of a criterion of Truth."

The second question, "The origin and destiny of the World," has the most direct bearing upon our subject, and was settled, says

* Tyndall's Address at Belfast.

Draper, thus: "The origin of all things is God, of whom the world is only a visible manifestation. It is evolved from Him, and by Him, perhaps as the Stoics delighted to say, as the plant is evolved by and from the germ in the seed."* This doctrine of emanation reposing on the assertion that the world existed eternally in God, that it came forth from Him, and will be hereafter absorbed by Him, was the basis of the Greek and Oriental philosophies. It was engrafted in their religion, and, with some modification, is still held in repute.

With the decline of the Greek philosophy an age of intellectual decrepitude marks the progress of scientific culture, the course of which has been variously estimated, Whewell ascribing it to "Obscurity of thought, servility, intolerance of disposition, enthusiasm of temper."† Rome had fallen into moral putrefaction; Christianity had risen, protesting against the profligacy of the age. The early Christians scorned the earth and accepted the Scriptures, which administered to their spiritual needs as their measure of science. As to the question of antipodes, the Bible was the ultimate source of appeal. Augustin would not deny the rotundity of the earth, but denied the possibility of the other side being inhabited. Archbishop Bonifacius was shocked at the idea of a race of "human beings out of the reach of salvation; no such race is recorded in Scriptures among the descendants of Adam."

Then came the mysticism of the Middle Ages, magic and alchemy. The undeveloped intellectual power of many potential philosophers was exhausted in the vain search for the Philosopher's Stone. The neo-Platonic philosophy, "with its sublime abstractions, which caused men to look with shame upon their own bodies as a hindrance to the absorption of the creature in the blessedness of the Creator.' Then came the scholastic philosophy, "A fusion," says Lange, "of the least mature notion of Aristotle with the Christianity of the West." During this drought of the Middle Ages the Arabian intellect was active, and left a marked impress on modern science, as portrayed by Draper. The most prominent among these Arabian philosophers being Alhazan, who made many experiments in physics and was the first to correct the Platonic notion that "rays of light are emitted by the eye." He explained twilight, and in his "Book

* Draper's "Intellectual Development of Europe." † Ibid.
†Whewell's "History of Inductive Science."

of the Balance of Wisdom" sets forth the connection between the weight of atmosphere and its increasing density. Europe is under great scientific obligations to the Mohammedans.

At last the spirit of investigation, directly by Nature, began to creep into philosophy. The revival of learning had commenced—Martin Luther had appeared. The chains of monastic rule were broken and the spirit of freedom which was thereby given in ecclesiastical affairs fostered a like spirit in other relations of life. The spirit of the age seemed to be that "not unto Aristotle, not unto subtle hypotheses, not unto the Church, not unto the Bible nor blind traditions must we turn for a knowledge of the Universe, but to the direct investigation of Nature." Copernicus traced the paths of the heavenly bodies. The closed universe of Aristotle, with the earth for its centre, disappeared. The "earth moves" became a watchword for intellectual freemen.

The Italian philosopher, Bruno, was among the first converts to the new Astronomy. He revived the notion of the infinity of worlds. Pondering on the doctrine of maintenance and generation of organisms, he came to the conclusion that "Nature in her productions does not imitate the technic of man. Her process is one of an unraveling and unfolding. The infinity of forms under which matter appears was not imposed upon it by an external artificer, but by its own intrinsic force and virtue it brings these forms forth. Matter is not the mere *empty capacity* which philosophers have pictured her to be, but the universal mother who brings forth all things as the fruit of her womb." For these sentiments Bruno was accused of heresy, found guilty, and on February 16th, A. D., 1600, was burned at the stake. Galileo abjured upon his knees the heliocentric doctrine in order to escape a similar punishment. Thirty-three years later Kepler defied the powers of the Inquisition from his mountain stronghold, and traced the law of planetary motion preparing material for Newton, who "bound these empirical laws together by the principle of gravitation." Bacon and Descartes restored in the seventeenth century the philosophical speculation which had been dormant for so long. Bacon held fast to Induction, and considered experience the basis of all knowledge, Descartes to Deduction. He followed Protagoras and made the individual man the basis of all things. "He was the first to reduce," says Tyndall, "vital phenomena to purely mechanical principles."

Following this suggestion, Lamarck, about the beginning of this century, concluded that all forms of life, including man, are descended from others. Geoffrey St. Hilaire had hinted at a similar idea in 1795, but it did not assume definite shape. Since this time, by slow and steady advances, each step forward, struggling to maintain itself, has this doctrine developed. Wells, Grant, Owen and Matthew, all eminent scientists in their time, added a little to already existing facts. Herbert Spencer, Darwin, Wallace, Huxley and Von Bær, since 1850, have labored unceasingly to establish by facts that which in theory they believed to be true.

So, through all time, has there been opposing philosophies, and the evolutionist is led to believe that has survived and gained the most general acceptance by intelligent beings which was most fit so to do. Thus the doctrine of "universal law" governing the universe has gradually developed from direct observation of nature.

The doctrine of atoms and molecules pervades the philosophy of all, or nearly all, of whom we have spoken, and whether a form of Pantheism or a detached creator is assumed, the system is equally dependent upon it. No theory of the "material universe is capable of scientific conception without it." It was advocated with more or less modification by Bacon, Descartes, Hobbs, Locke, Newton, Boyle and their successors. Dalton, and in our own day, Loschmidt, Storey and Thompson, have attempted to determine their size. Recent discussions of Williamson and Maxwell, in England, show the hold it has upon the scientific mind to-day. Thus, through a long succession of ages, has the intellect been engaged in working its own advancement from the unknown and unknowable to the known and knowable, from mysticism and superstition to scientific charms and accuracy.

The doctrine of evolution is the embodiment of modern science and philosophy. It is, as we have said, the outgrowth of combined intellectual efforts of man from the earliest period of activity till now, and, as at present formulated, represents these combined experiences, modified by the individual opinion of its advocates. It deals with substantially the same problem as the ancients contended with, but in a different way and with more experience. Modern philosophical principles under this influence are as follows :

1. "That law prevails throughout all nature, and has prevailed through all time."

2. "Reason is the ultimate arbiter in all philosophical questions—that no conclusions must be adopted without a careful examination of all sides and an impartial consideration of all facts and theories."

3. "A knowledge of scientific and philosophical truth is beneficial to the people."*

By virtue of the mutual dependence of science and philosophy, and as an outgrowth from these ideas the scientific doctrine of evolution or Darwinism has sprung.

The operation of universal, everlasting, unchanageable law has wrought a process of development which this doctrine professes satisfactorily to reason to explain. Primarily its application is only to the explanation of organic change; but in its broadest sense it is the "universal theory of development which embraces the whole domain of human knowledge." And here let us draw a distinction between science and philosophy—Science is a knowledge of laws, principles and relations—it is classified knowledge. Philosophy is the system by which such knowledge is attained—a science of first causes.

It was a feature of Bacon's philosophical system to collect all known facts in regard to natural phenomena, and on this basis form a theory; the result would be as perfect a scientific theory as could be produced by the human mind. Upon such a system of induction as promulgated by Aristotle and Bacon the science of to-day relies for the maintenance of its position. By it everything relating to the individual, society, religion, politics, history, science, philosophy and every class of human knowledge, it is claimed, is more satisfactorily explained to a reasonable being than in any other way. Evolution, Darwinism, Development, Descent may be considered as interchangeable terms, and to represent the sum total of modern scientific facts. Evolution, the term in general use, may be defined as "that hypothesis which affirms that all organisms, viz: all species of animals or plants which have ever existed or which still exist on the earth, are derived from one single or a few simple forms, and that they have developed themselves from these in the natural course of a gradual change."† Such development being influenced by heredity and adaptation, and that form survives to perpetuate itself which was most fit so to do. It aims at answering a number of questions regarding the genesis or beginning of things. It attempts "an explanation of the problem of change, of the inces-

* Hittell's "History of Culture."

† Hackel's "History of Creation"—Vol. I.

sant process of transformation which the world manifests. The common form of this question is "what is motion, and how does it arise?" It inquires into the intelligent order in the world, to the existence of general classes of things, including minds; of universal law, and finally to that appearance of a rational end toward which all things tend. It accounts for the origin of organic beings which appear to be subordinated to different principles from those which control those inorganic. Lastly, it attempts a solution of the mystery of conscious minds in dependence on physical bodies, and, as a subordinate question, may be mentioned the meaning of human history and its dependence on physical processes."* The doctrine of evolution of the cosmos is opposed to the doctrine of direct creation and emanation. It substitutes a natural and necessary process for that of an arbitrary volitional one. Between the life of the individual, as traced by this theory of development, and the mental progress of the race, there is a certain analogous relation; to use a well-worn metaphor, it is the analogy of the metamorphism of the caterpillar into the butterfly. History shows that the human mind, fed by constant accession of knowledge, periodically grows too large for its theoretical covering, and bursts it asunder, to appear again in new habiliments, as the feeding and growing grub casts its too narrow skin and assumes another, but temporary. "This imago state of man," says Huxley, "seems to be terribly distant, but every moult is a step gained, and there seems to have been many."

By virtue of this apparent analogy the facts of biology, as determined by embryology and comparative anatomy, have served the means by which the fundamental laws of race progress are formulated. A history of the individual existence is a condensed history of the race. Recent researches in these sciences have revealed certain facts beyond dispute, facts which anyone may observe for himself, tending to show a structural unity of the higher and lower forms of organisms, thereby supporting the hypothesis of a few simple forms at the beginning. A few of these it is necessary for us to notice.

Each human individual is developed from an egg—a simple cell. In the development of this egg an organism is first produced entirely different from the human body, but not at all different from other animals. At certain stages of its development it has "the characteristic of a lancelot, later of a fish, and at subsequent stages of amphibious and mammal forms, and in the further evolution of mammal forms those first appear which stand lowest in the series, viz: forms allied to

* Huxley in "Encyc. Brit."

beaked animals (ornitholynthus)), then those allied to pouched animals (marsupials); these are followed by forms resembling apes, and lastly, the peculiar human form is produced."* The series of forms through which the individual organism passes during its progress from the egg cell to its full developed state is a "brief compressed reproduction of the long series of forms through which the animal ancestors of that organism (or the ancestral form of its species) have passed from the earliest period of so-called organic creation down to the present time, and the causal nature of the two is dependent upon heredity and adaptation."†

It appears from this that the form next preceding the human, which the ovum assumes in its development, is that of an ape. It becomes necessary to give our attention to this organism, and, as the ancestra form of our species has passed through similar transformation, according to this hypothesis, we should consider the catarrhine, or man-like apes, with due respect. Most men are shocked at such consideration, and turn with scorn from any philosophy which traces his genealogy in the line of apes. It awakens a sudden and profound mistrust, says Huxley, "of time-honored theories and strongly-rooted prejudices regarding his own position in nature and his relation to the under world of life."

To those who stop to think, the struggle for existence of scientific and philosophical truth would dispel this illusion of prejudiced minds. They would remember the tortures of the Spanish inquisition, the heresies and heterodoxy which succeeding generations have been able to appreciate, and, in the light of advancing knowledge, have pronounced truth; their persecutors appearing in history as fools wedded to orthodoxy and superstition to the exclusion of truth. For this reason, if no other, our respectful attention is due the man-like ape. All investigators agree that there are certain anatomical similarities of structure. The general plan is the same, modified by heredity and adaptation. The ape nearest resembling man is either chimpanze or the gorilla.

Without going into detail, it may be accepted as a fact that a certain unity of anatomical structure does exist. Mindful of what has been said regarding the development of the human from the ovum and this unity of structure after maturity, let us return for a moment to the comparative embryological development of the two.

* Hackel's "Evolution of Man." † Ibid.

Every being created comes into existence in a different form from that which it finally assumes, and more simple in structure. The oak is quite a different thing from the acorn; the butterfly from the caterpillar; man from the microscopic ovum. Throughout the course of individual development it is satisfactorily proven by such observers as Bishoff, Von Bær and Remak, that a certain similarity in the advancement from the embryo state exists, and that at certain periods in the development of animals near related the development is identical, and at this time it would be impossible to distinguish the one from the other. Later, there seems to be a divergence in the process. The closer the two animals resemble in the adult state, the longer this longer this similarity in development lasts. An 'opossum and a kangaroo resemble one another very nearly through the whole process of gestation; likewise man and the catarrhine apes. The human ovum is about 1.125 of an inch in diameter. It does not differ from that of other animals in structure, and is not distinguishable from a young puppy until far advanced in development, and when points of difference do appear, "exactly where man differs from the dog he resembles the ape, which, like man, has a spheroidal yelk sac and a discoidal, sometimes partially lobed placenta, so that it is quite in the later stages of development that the young human presents a marked difference from the young ape, while the ape departs as much from the puppy as man does."* This is a fact, and can be demonstrated at any time. To some this alone is sufficient to establish the structural unity of man with the rest of the animal world, and more particularly and closely with the apes. Again, says Huxley, "identical in the physical process in which he originates, identical in the mode of nutrition before and after his birth with the animals which lie immediately below him the scale, in his adult and perfect structure, possesses a marvelous likeness of organization. He resembles them as they resemble one another. He differs from them as they differ from one another, and though these differences cannot be weighed and measured, their value may be readily estimated. The scale or standard of judgment touching that value being afforded and expressed by the system of classification of animals now current among zoologists." Another class of physical evidence, upon which special stress is laid by Haekel, and upon which modern science relies, in a measure, for its ideas in regard to man's position in nature, is offered by the rudimentary organs. In some animals certain

* Huxley's "Place in Nature."

organs are found in an imperfectly developed condition, and in such imperfect conditions subserve the individual to no purpose, but in animals lower in the scale, where the development is more perfect, are very important. Following the laws of heredity and adaptation, a change of environment of succeeding generations rendered these organs useless, so that the descendants of an individual under such circumstances are imperfectly developed in this particular. A number of such instances in man are found. The small fold of membrane at the inner canthus of the eye, from its position and relations to other parts, is believed to be a rudimentary nictitating membrane, which in some of the lower animals, as the fishes, is perfectly developed. As the progressive development proceeded it became useless, and appears smaller and smaller, until it is barely noticeable.

Very few men have the power of moving their ears, yet an apparatus for such motion is possessed by every man. The same muscles which enable the lower animals to have free control over the ear are in man. The environment of man is such that it would be useless for him to move his ears. So from disuse, through successive generations, these muscles are imperfectly developed. Rabbits, under domestication, have been made to suffer a similar affliction and to lose entirely the power of pricking up their ears.

Thus the modern scientist claims to have determined man's place in nature, and the conclusion is based on physical facts that he is descended from the ape, and is only a degree higher in the process of development, through which all things are still passing, and which has been in operation through all time; that he is descended from the ape follows as a "special deduction from the general induction law of the descent theory, according to the stern commands of inexorable logic."*

Thus the evolutionist traces the development of the individual, and by virtue of the analogy between the life of the individual and that of the human race, it attempts an extension of the doctrine to establish general laws of development which embrace every organic object, regarding the higher forms as gradually arising out of the lower. The totality of existence by an orderly succession of events, or a process of becoming, is under the influence of the same laws as individual existence.

* Haekel's "History of Creation."

The evolutionist explains how things have become what they are, and this transformation is still going on. The physical world is a gradual progress from the simple to the complex, from the indeterminate to the determinate, from the uniform to the varied. The doctrine of evolution is almost identical with progress, although this term is applied usually to processes in the moral, as distinguished from the physical world. It is the doctrine of progress from worse to better. As Herbert Spencer remarks, "It points to an increased value in existence, as judged by our feelings, at the same time, inasmuch as conscious, and particularly human life, is looked on as the highest phase of development, and man's development is said to be an increase in well-being and happiness, we do not greatly err when we speak of evolution as a transition from the lower to the higher, from the worse to the better." It is progress in the wider sense of cosmic development, "inasmuch as all advance implies a larger measure of adaptation and is of permanence."

Like all else depending upon the interpretation of the human understanding, the significance of the evolution idea is capable of several interpretations, dependent upon the answers to three questions, viz:

1. "How far is the process a real objective one?"

2. "What is the nature of that reality, which makes the content, so to speak, of the process?" and

3. "How is the process brought about?"*

So there arises several sects of evolutionists according to the peculiar philosophical views as to the force or activity which brings about the process of change. Some will ascribe it to physical events, as conditioned by antecedent or efficient causes. This gives the mechanical view. Another will discard antecedent causes as a factor of the process of changes, and consider it as related to, and determined by, some end or purpose. The one leads to the materialistic, the other to the spiritualistic view of nature. Another still will combine the teleological and mechanical, and give us a view of evolution, based on the monastic idea that the material and mental are two equally real aspects of one and the same thing.

Under the influence of those entertaining the last view the doctrine has had considerable effect upon psychology, and nearly all recent works on that subject attempt more, more or less, to formulate a mental evolution by which human intelligence is brought into relation with that of the lower animals.

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* Encyc. Brit. Art Evoluton.

Upon anthropology it has had still more effect; nearly all the recent writers and historians of culture accept its deductions. Mr. Walter Bagehot, in his work, "Physics and Politics," attempts, by natural selection, to explain certain aspects of political progress. It is still more interesting to notice the effect it is having on our ethical and religious ideas.

Fanaticism in evolutionary ideas leads to blind atheism, just as fanaticism in other branches of philosophy obscures the tenets of the whole system. Evolution is not atheism, as Dr. Hodge says. Darwin himself considers it not only compatible with an original creation, but to supply "a higher conception of divine attributes than the doctrine of special creation." Mr. Barratt, in his work on "Physical Ethics," is able to connect the moral evolution of man with the whole process of organic and cosmic evolution. The doctrine, as formulated by Spencer, excludes the idea of an original Creator, and of course is violently opposed by theological waters. It appears, says Mr. Spencer, that "the doctrine is serving as the starting point of a new quasi-religious conception of nature;" and in his own works it is ever the "unknowable force which sustains the everlasting worlds."

Thus have we given the general outline of the evolutionist solution of the problem of human existence. Many facts serving to establish this hypothesis are necessarily omitted. A general idea of the origin, mission and destiny of man may be deduced from what has been said. The question then arises, what have we as physicians to do with it? What relation has it to our profession?

In our professional relations we are brought in contact with all classes and condition of people, the high and the low, the learned and the ignorant, religious persons and the infidels, the rich and the poor, the fool and the knave, and in such position much can be done to the furtherance of truth and accuracy of ideas.

It is not our duty to stifle the investigation of nature's laws by throwing around us the cloak of religious fanaticism, veiling truth with superstition and orthodoxy, unless, after a careful anylysis of fact, reason dictates such a course. The foundation of modern science is facts; the special deductions from these facts we must accept just so far as reason dictates. Appealing, as it does, to reason alone, modern science is not to be uprooted by figures of rhetoric or flights of oratory, which for the time tickle the fancy,

but by such an array of facts against it as to produce a preponderance of evidence. Reason is then to be the "criterion of truth" in coming to a conclusion in regard to modern science doctrines, and that course will be right which is most in accord therewith, be that teleological or materialistic. As scientific men, we must attempt to determine truth without prejudice, and having determined it to our own satisfaction, disregard what others may say unless additional facts prove our conclusions erroneous. The motive is not to break down established opinions nor the destruction of religious creeds. He who fully appreciates the true nobility, the grandness of that principle within him, which creates the desire "to look through nature to nature's God," is animated by other than the desire to destroy the religion of the land. The motive of the true scientist "is the extension of men on all sides into nature till his hands should touch the stars, his eyes see through the earth, his ears understand the language of beast and bird and the sense of the wind, and through his sympathy heaven and earth should talk with him."*

ADDRESS OF H. B. PIERCE, M.D., RETIRING PRESIDENT, ON THE DUTIES OF THE HOUR.

Delivered before the Medical Society of North Carolina, at Raleigh, N. C., May 21, 1884.

Gentlemen of the Medical Society of North Carolina:

I shall not attempt in the short time allotted to me on this occasion, amid the hurry and confusion incident to the closing scenes of an assemblage like the present, to enter into any disquisition on the science of medicine, or to add anything new to the achievements already won in the great field of experimental knowledge. My purpose is simply to offer some few practical suggestions by which we as professional gentlemen shall be benefited and the great objects of our Association shall be promoted.

The present is an important era in the history of the medical profession in North Carolina. Influences both in and out of the

* Emerson's "Conduct of Life."

profession are operating to an alarming extent on the future prosperity of the profession we represent. And while I am no alarmist or croaker, I would call your attention to some of the existing evils, as I conceive, and thus shall address myself to what I denominate

THE DUTIES OF THE HOUR.

In this our southern land nothing has had a more deleterious effect on the prospects of our profession than the present depressed condition of our country in a financial point of view. It has not only rendered inefficient the efforts of the best men of our profession, paralyzing their energies and blasting their prospects for gaining a successful livelihood from their calling—it has at the same time had a tendency to flood our country with a set of individuals whose only aim has been personal aggrandizement, to take advantage of the times and to fatten on the misfortunes of their fellows. True it is, the field is a wide one, the harvest is plenteous and the results to be achieved are grand and imposing, but the laborers are dispirited, the burdens are onerous and the rewards are few.

I take it for granted in our finite nature that no great work can be accomplished, no great success can be attained in life without the proper rewards for labor, be it physical, intellectual or moral. Physical labor, the employment of muscle in its achievements, must have its reward in raising its possessor above want, or it dwindles into insignificance and the mere gaining a scanty subsistence to keep body and soul together. The dignity of labor is destroyed, and the human being relapses into a condition but little removed from the brute creation. Just so with intellectual and moral labor, or all of them combined. The individual in every avocation of life must be rewarded for his labor, must be placed above the reach of want in order to pursue successfully his avocation in life.

This brings us to the first duty of the hour: A demand from the public for a just recognition of our claims and an equal participation in the benefits of legislation with every other avocation and pursuit in life.

Disguise the facts as we may, the subject of the collection of medical fees in a great many sections of North Carolina is paramount to every other question that can engage the attention of the profession, much of the fault lies at our own door and within the circle of the regular profession of our country. There are those

practising in almost every community who fail to demand their fees regularly when due, which operates injuriously upon those who pursue a different plan and expect to live by their profession. By concert of action in this matter of demanding our fees when due, much might be done in accomplishing the desired end. While I am of the opinion that no regular fee bill can be strictly enforced, yet much can be accomplished by demanding regularly our fees, be they great or small, and informing the public that we expect to be paid.

This alone, however, cannot accomplish the end unless our efforts are seconded by the law-making tribunal of our land. It is mockery to tell us that it is unconstitutional to pass such a law, and there is nothing upon which to attach a lien, when every laborer who works a day or a week on your farm, creates a lien on your property, and every mechanic who strikes a lick on your houses or tenements creates a lien on the property upon which he bestows his labor. All we want is to be placed on an equal footing with the mechanic and common laborer of our country. Let our fees be collectable, to a certain amount, at least, and there will be no further difficulty in the matter. All we want is a recognition of our rights and to be placed side by side with the other avocations and pursuits in life. If this cannot be done in accordance with the Constitution, let all class legislation be repealed, and let all that a man possesses be subject to his debts. Place everyone on an equal footing as regards the collections of debts. I know that the embarrassed condition of our country since our late troubles have called loudly for class legislation and exemptions, but it is high time the eyes of the country should be opened to the great injustice practiced upon certain professions and occupations. Class legislation has been the bane of our country for the last few years—the creation of monopolies in everything, and no people have suffered more from it than our own profession. Abolish everything in our body politic that has a tendency to create monopolies, and let free competition be the rule of our action for the future.

Another duty we owe ourselves as members of the medical fraternity, is to request of the Press a just recognition of our claims, and to raise our voices against the practice but too common of the Press giving aid and comfort to the venders of secret medicines and quack nostrums. It does seem that the public Press, and especially the religious Press of our country, would have respect enough for

the regular profession to their influence on the side of legitimate medicine. What incentive can there be to erect a high standard of medical qualifications when every nostrum-vender comes into legitimate competition with us by the approval of the Press, sustained, in many instances, by the unprofessional distingué of the land? We can hardly take up a newspaper, be it secular or clerical, but that we behold emblazoned to the world "Honorables," "D.D's" and other distinguished characters, giving their sanction to the secret medicines and patent nostrums of the day. In the language of a contemporary: "The pecuniary interest of the public Press in relation to public health, so far as means and methods for the cure of disease is concerned, is identical with the pecuniary interest of advertising quacks. The public Press lends itself to the diffusion of the ways and means of medical quackery in all its protean forms. The subsidies of travelling impostors and of patent medicine men fill one of the largest arteries of support for the newspaper print of all degrees and kinds, and the influence on the public mind of the smallest member of the Press, no matter how weak or imbecile may be the intellect that bestrides the tripod, is more potent than the teachings of a hundred of the ablest minds that adorn the profession of medicine."

I feel I would not be doing my duty to the profession or the public did I not raise my voice against this abuse of the public Press.

Another abuse and practice to which I would call your attention is that too common, I fear, of the druggists of our country prescribing in many cases and refilling prescriptions of physicians without their consent or knowledge. While in the first instance they are entirely out of their sphere, thereby injuring the regular profession by gratuitous advice, in the second place they are appropriating to themselves what does not belong to them, and for which they are justly amenable to the law. We hope that the bare mention of this subject is enough, and that "a word to the wise is sufficient." Every one who thinks at all must see the injustice to the profession and the danger of such a course to the public.

Having noticed in a cursory manner some of the duties of the public to the profession, we propose to notice some of our duties to the public.

The question of prescribing stimulants in disease generally is

demanding considerable attention among the profession, and as such demands our notice.

Professor Carpenter has summed up the beneficial effects of alcoholic stimulants under two general heads:

1st. Recovery from shock from any cause, and

2d. In the treatment of acute disease from continued fevers, resistance to morbific agents, recovery therefrom and the consequent prostration that follows.

The following declaration respecting alcohol has recently been published in the British medical journals. It is signed by two hundred and fifty-four physicians and surgeons, including some of the most distinguished names in the profession in Great Britain, Its appearance has naturally excited much criticism:

"As it is believed that the inconsiderate prescription of large quantities of alcoholic liquids by medical men for their patients has given rise in many instances to the formation of intemperate habits. the undersigned, while unable to abandon the use of alcohol in certain cases of disease, are yet of the opinion that no medical practitioner should prescribe it without a sense of grave responsibility. They believe that alcohol, in whatever form, should be prescribed with as much care as any powerful drug, and that the directions for its use should be so framed as not to be interpreted as a sanction for excess or necessarily for the continuance of its use when the occasion is passed.

"They are also of the opinion that many people immensely exaggerate the value of alcohol as an article of diet, and as no class of men see so much of its ill-effects and possess such power to restrain its abuse as the members of their own profession, they hold that every medical practitioner is bound to exert his utmost influence to inculcate habits of general moderation in the use of alcoholic liquids.

"Being also firmly convinced that the great amount of drinking of alcoholic liquids among the working classes of this country is one of the greatest evils of the day, destroying more than anything else the health, happiness and welfare of those classes and neutralizing, to a large extent, the great industrial prosperity which God has placed within the reach of this nation, the undersigned would gladly support any wise legislation which would tend to restrict within proper limits the use of alcoholic beverages and gradually introduce habits of temperance."

One of our cotemporaries, Dr. W. L. Lipscomb, of Mississippi, has handled this subject of the use and abuse of alcohol in such glowing description that I do not hesitate to adopt his language, and I offer no apology for repeating it before the Medical Society of North Carolina. It was read before the Columbus and Loundes County Medical Association in 1874.

"It is needless for your essayist to state to this Association that great diversity of opinion exists as to the action of alcohol on the human system. This has always been the case and will be so to the end of time. It cannot be otherwise while men's minds are different. It could not be different unless the knowledge of man approached the infinitude of God.

"Alcohol represents one of those great agencies in the natural universe that touches so directly upon the function of vitality that the supreme architect has purposely removed it from the perfect comprehension of the human mind—or the human mind has become so clouded by the effects of sin that it is unable to grasp it.

"Life, viewed from its great dual standpoint of construction and destruction, of organization and disorganization, of growth and decay, finds in alcohol one of those important supplementary agencies whose claims cannot be disregarded and whose use will be continued (despite terrible evils resulting from its abuse) as long as man aspires to perfection of function and duration of life, on the one hand, and battles against weakness and death on the other. Take the circle of human existence and place life at any one given point and you will find alcohol one of those great, incomprehensible agencies that stands ready with appropriate balances to preserve it in its appropriate place and to restore it in the event of dislocation,

"The dream of the alchemist failed because of a want of ample knowledge of the use of alcohol as applied to the diseases of men. The distinguished author of the Brunonian system, with one hand throttling the monster disease and holding his bottle of brandy in the other, presented no mean caricature of the true physician. The only error in the picture was the dimness of his intellectual eye. He could not bring the power of the one against the evil of the other.

"What is life? Life is the blood. Nutrition is the dominant function of existence. Disease is a disorder of nutrition.

"Life is electricity, with the brain for its battery and the nerves for the wires of distribution. Disease is a disorder of innervation.

"Life is heat. Death is cold. Disease is a disorder of temperature.

"As a presiding angel over the great function of life, or if you prefer it, as a vigilant sentinel, guarding the doors of the 'Atria Mortis,' stands alcohol.

"Has nutrition become feeble from the want of a requisite supply of food? Alcohol supplements the deficiency by arresting the waste of time until the supply can be increased. Has nutrition become deranged by the presence of inappropriate material? Alcohol supplements the forces of digestion and overcomes the resistance. Is nutrition failing because of a tardiness in the elements to reach their appropriate destination? Alcohol sends the blood faster to its place of duty. Is nutrition heavy, with excess of effete matter? Alcohol can put the heart and lungs and every emunctory on double duty to effect its discharge. Does nutrition need assistance in the selection of the secreted elements? Alcohol claims special control in that department. But disease is a disorder of innervation! Alcohol refreshes the weary brain and stimulates the exhausted nerves. Alcohol obtunds sensitiveness and deadens pain. Alcohol brings refreshing sleep and averts the blow of the deadly poison. Alcohol supplies mental deficiency and controls the excess of the maniæ. But life is heat. Disease is a disorder of temperature! Alcohol is the friend of heat and a most active antipyretic! Alcohol warms if you are cold and cools if you are hot. It is alike the enemy of shock and the foe of fever. It puts the thermometer at exactly 98° and keeps it there, despite of lazy lungs and an unfaithful stomach. Alcohol strides the whole domain of temperature and assists or controls the supply of animal heat at any or all of its numerous sources. If alcohol has these influences upon the centres and functions of life, is it a wonder that there should exist in all nations a natural appetite and a ready acquisition of its habitual use? Is it a wonder that it has become the poor man's friend and the rich man's delight? The lethean of the miserable and the catholicon of the sick?"

Could I drop the curtain here and expose to your view only the bright side of the picture, with all its alluring charms, it were perhaps well; but there is another side to the picture, and duty forces me to present it to your view. In the language of the writer:

"An agency so powerful for good is equally powerful for evil. Force power in any department of nature misapplied produces dis-

order, friction and destruction. So alcohol is a force, a mighty force! a power, a tremendous power! and wherever applied is either good or evil. No matter what the motive or intentions dictating its use, its laws are inexorable—it will benefit or injure—it will kill or cure. The draught of ignorance, the cup of science, nor the hand of benevolence can restrain its inherent activity or power.

"The world is full of the evil of its application; disease fattens in its ignorant use; death and hell luxuriate on its abused potentiality; men see the evil everywhere; the temperate proclaim from every pulpit and rostrum; the poor inebriate does not deny it; medicine, intelligent medicine, looks with horror and dismay at its frightful ravages; more evil results to man from alcohol than all the other agencies put together; it engenders disease in every part of man's organism; it interferes with every function of life; it accelerates all the forces of decay and death. And the evil is constantly increasing; the bad effects are increasing in terrible ratios; its powers and influences are irresistible and threaten the whole world with misery and ruin.

"What a wonderful combination for good and evil in a single agency! What a contradiction of results! What a problem for study! What a field of investigation for the philosopher, the scientist and the Christian!"

Any attempt to enter the arena of thought would require more time than your essayist feels permitted to use; but he asks permission to present the following propositions:

1st. The extensive and powerful agency of alcohol for good to the human organism is a demonstrated and a demonstrable fact.

2d. The evil effects are as much more extensive and powerful as sin exceeds virtue and ignorance exceeds knowledge.

3rd. That the good may be enjoyed and the evil avoided by the establishment of virtue and knowledge and the eradication of sin and ignorance.

4th. That Christianity and education are the only known factors of this desirable result. To arrest the spread of this terrific evil until these two forces can be properly developed and operated, your essayist would recommend that mankind be taught by every conceivable method the following truths regarding alcoholic liquors:

1st. That alcohol is a poison and not an aliment of food, and should never in any case be taken by a person in health.

2d. That the poisonous effects of alcohol are discoverable in a desire or thirst for its use, and whether that thirst or use be temperate or intemperate, a certain and progressive poisonous effect is going on in the human system.

3rd. That the poisonous effects of alcohol are transmitted from parent to offspring.

4th. That the benefits of alcohol in disease are limited by a return to health, and that its poisonous effects are antidoted by the diseases it cures. Hence alcohol, properly administered in disease, never produces drunkenness.

5th. That alcohol is much more dangerous taken in health than in disease.

6th. That the manufacture of alcohol, like that of money, should be the province and duty of the Government and under its exclusive jurisdiction.

7th. That the improper use and sale of alcohol should be put on a footing with other poisons and the offenders punished by law.

8th. That the medical profession owe to themselves, to science and the great cause of Christianity and eduation a demonstration of the proper use of alcohol and a plain, faithful, scientific exposition of the evils resulting from its abuse.

Thus I have endeavored to present this subject to you from a strictly medical standpoint, and while I may seem to some to have overestimated its effects as a remedy in disease, I certainly have not undervalued its importance as a great factor in the animal economy.

In view, then, of the great importance of this great factor in disease and health; in view of the multitudinous forms in which it is offered for our use and scattered broadcast over our land, would it not be well that we pause and reflect and consider whether or not some means could be devised which would give us the remedial effects of so potent a remedy without its wholesale use and prescription, which has been but too common by many of the profession of our country. In view of the many infamous preparations which are daily being put forth in wines, brandies and beers, would it not be well for the medical profession "to use alcohol as such, and not in the form of special manufactures."

In the language of a writer who has made this subject his study: "We know that liquors prepared by strictly natural methods are not constant in composition; we know that under the exigencies of trade

additional conditions of variation are produced, and even complete substitution brought about. I have thought for some time that the best way to secure entire constancy in the therapeutic use of alcohol would be to have the preparations made up by regular prescription or printed formula in the *Pharmacopœia.* The substances which exist in wine, beer and brandy are in accidental mixture—some are useful, others are useless. Why should we not have the useful articles properly combined by competent hands, and the useless omitted, and the physician, instead of ordering special wines, etc., prescribe such proportious as may be necessary of alcohol, water," etc? "These prescriptions, like others containing powerful ingredients, should be renewable only at the instance of the physician."

Another question of vital importance to the human family—the abuse of another patent remedy in disease, which has assumed a very grave aspect—is the opium habit, to which I would call your special attention. Is the profession responsible for the rapid spread the habit has made for the last few years? And can any means be devised by which it can be corrected or its deleterious effects lessened? I have had my attention drawn to it so vividly recently by a medical friend, that I almost shudder when I think of the horrors of the dreadful habit, and I feel that I would not be doing my duty to the profession or the public did I not direct your serious attention to the matter. And I fear that it has been brought about frequently by the too careless prescription of our medical brethren. While opium in some of its forms is a remedy which cannot be dispensed with in medicine, yet I feel satisfied that much damage has been done in the formation of the habit by the too frequent and too careless administration of the drug. The prolonged use of it in no case should be advised, and whenever it can be administered without the knowledge of the patient, it is a duty we owe to humanity to avail ourselves of the opportunity. The habit, when once formed, is more exacting in its demands and deadly in its operations on the senses than the habit of intemperance in ardent spirits, and while it does not produce such general perversion of the moral sentiments as exhibited in external depravity, it obtunds every moral sentiment and stupefies every faculty of the mind. While much may be expected from the profession in arresting the development of this habit by wise counsel and timely precaution, it is to the apothecary and druggist that we must look for the aid which will be necessary

to accomplish this desirable end. Stringent laws with regard to the sale of the drug, except as a medicine, and the proper preventive of the druggists in the sale of the drug could do much in arresting the dreadful evil. Where is the moral difference between selling a large quantity of opium, or any of its preparations, to the slave of the opium habit knowingly, and selling whiskey to the besotted inebriate?

The more to be lamented, this habit is more frequent among the women of our land than the men. In my limited observation five women are addicted to the habit where there is one man. The more to be deplored, because these are the mothers of our land; and what, I ask, is a mother, who is the slave of the opium habit? It is an object the quintessence of pitiable. Doomed to a vice that obliterates every moral sentiment, that stupefies the intellect, that renders ineffective the will, that "causes her to sacrifice friends, honor, truth, health, religion, home and the necessities of helpless children!" What object, I say, could be more pitiable. And yet we have this spectacle daily exhibited to our view, and we look on with complacency, and make no effort to stay the tide that threatens to engulph our homes, our firesides and our loved ones.

Another subject that demands your consideration is medical education. The future destiny of the medical profession, to a great degree, is in the hands of the regular medical profession of our land. The avenues that lead to the sanctuary of medicine have their beginning in the office of the private physician. Much depends upon you for wholesome advice and wise counsel at the very threshold of the student's career. Due regard should be had, not only to the welfare of the applicant, but to the good and well-being of the profession you represent. Guard well the outer door of the profession by discouraging any applicant believed to be disqualified by preliminary education or moral qualities. It is a mistaken idea that when a young man is fit for nothing else he is qualified for the study of medicine. In the language of a cotemporary:

"Why should the feeble or half-fledged intellect, which is unable to turn the disc of illumination upon the truth of the simplest science, be required to light the deep and tortuous labyrinths of medical philosophy?—that manifold science, either one of which great branches would employ for an age the labors of the grandest intellect, and yet its boundaries would be half surveyed, its domain but half explored; that

science which taxes the resources of earth, and air and sea, levies its contributions on every department of nature and girdles the world in its circuit.

"To fulfil the highest obligations and responsibilities of the practice of medicine, no business demands more intellectual vigor, more mental discipline, more compass of reason, more deliberate judgment, more depth of conscience and more moral courage and self-reliance."

And on you, gentlemen of the Medical Board of Examiners, much is devolved in carrying out the great objects of our mission. Guard well the inner door, the "sanctum sanctorum" of the profession in North Carolina. There may be those of small brains, of limited preliminary education, of fox cunning, of parrot information, with the venom of asps between their lips and the sting of the viper on their tongues, who may possibly seek to enter the sanctuary, who are only actuated by mercenary motives. Seek diligently to find out all such, and spurn them as you would the serpent from your bosom. Their association is only ruin, and their contact is death.

Lastly, gentlemen, I would urge upon you the necessity of maintaining a high standard of medical ethics in the profession you represent. In the language of another:

"Physicians have, as a class, like every other class of men, what has become to them a code of manners—a system of medical ethics—that certain rule of politeness, of good breeding, of high courtesy, as simple as the salutations of the morning or the manners of the thoroughfare, and as free and as pure, and as free from evil as the moral law. Medical ethics is the crystalization of the morality and charity and refinement of the profession, and is as indispensable a part of the medical gentleman as the purity of his own character and the inbred instincts of his own refined nature. An educated physician can no more violate the regulations of his code than a polite gentleman can trample upon the rules of society. Medical ethics is no procrustean bed to amputate and trim the profession into the same shape and mould; it is not the register of the oaths of a secret, clandestine association of public enemies; it is not the regulations of a ring of public plunderers. nor a concoction of selfish means for the advancement of a set of arrogant bigots or greedy cormorants, who feed and fatten upon the public welfare. Medical ethics is the oil that lubricates the friction of a great philanthropic profession, and keeps in unison and harmony the parts of a complex whole. It is the golden rule of the science: 'Thou shalt

love medicine with all thy soul and mind and strength, and thy brother physician as thyself.' Its grand design was to root selfishness and meanness out of the profession and to separate medicine from the world of barter and trade, and to preserve its own inherent, philanthropic and disinterested standards of action. Organize medicine to-day on the basis of trade, turn loose all the devil, and Yankee and Jew there is in the doctors, and in one twelvemonth they would bankrupt California and the Indies and the plethora of their pretense would exceed the repletion of the public treasury. Who are the rich men of your cities? Are they the regular faculty of medicine? No, sir! They are the men who trade in human health and sell medicine according to the chances and circumstances that surround the victims on whom they operate. The credulity of the sick, the ignorance of the multitude and their own sordid souls constitute their stock in trade. Regular medicine has no secret nostrums to sell, no patented inventions to protect, no universal theories to teach, no universal catholicons to cure, no blazing placards to advertise."

Exclusiveness in nothing, and participation in everything that has a tendency to improve mankind and elevate the standard of professional character should be our aim as members of the Medical Society of North Carolina. Broad and catholic in our objects and aims, we are bound by no limits of thought and circumscribed by no isms, or or parties, or creeds; "no pent-up Utica contracts our powers, but the whole boundless realm of thought is ours!" Our domain is as broad as the universe, as high as the heaven above us, and as deep as the earth beneath us. We draw our resources from earth, air and water. The surface of the earth, with its teeming millions of vegetables and plants; the depths of the earth, with their vast mineral resources; the air, with its various elemental components; water, with its varied and multiplied uses—all, all are subservient to our will, and form the admamentorium of the true physician. The Author of our being, "not content with every food of life to nourish man;" "not content to make all nature beauty to his eye and music to his ear," has kindly bestowed upon the herb and flower of the garden a balm for the ills and woes of life. Our object is to extract good from all, and while we are no homœphathists, or hydropathists, or eclectics, or allopathists, which is a misnomer and a reproach to regular medicine, we are willing to acknowledge good wherever we find it, under whatever guise or name, and if I may be allowed to coin a word, I would designate

our name as "Omnepathists"—the application of all remedies to disease.

And thus, my fellow-members, I have endeavored, in my feeble way, to direct your thoughts into a channel which I hope may prove profitable in the future, if not entertaining for the present; and if I have succeeded in exciting within your bosom one higher thought or nobler aspiration for the welfare of your profession, my object is accomplished—my task is done. Would it were worthier.

CONGENTIAL OCCLUSION OF THE RECTUM.

By F. Duffy, M.D., Newbern, N. C.

Read before the Medical Society of North Carolina, at Raleigh, N. C., May 21, 1884.

Congential occlusion of the rectum, or anus, is not of very frequent occurrence, yet is sufficiently common to be treated of in all works on general surgery to which I have referred, and especially in works on the surgical diseases of children. It is a malformation, usually from arrest of development in the fœtus, or, as has been suggested, may occur from intra-uterine inflammation of the rectum, by which its adjacent walls become agglutinated and organic union occurs, completely occluding the natural outlet of the bowels. In the development of the fœtus, after the separation of the vitelline membrane into the internal and external blastodermic layers, the alimentary canal is formed by the growth and prolongation of the internal layer, while the outer surface, which envelops or encloses the abdominal cavity, is formed by the external blastodermic layer. The anus is the point at which normally the lower prolongation of the alimentary canal, viz: the rectum, and external blastodermic membrane again come together; their opposing surfaces form a septum, which normally disappears by interstitial absorption. Should this septum not disappear, it will present a wall of varying thickness, situated, it may be, externally at the anus or at any point within an inch up the rectum

These cases are comparatively simple, and especially when the

septum is external or is very thin. Of much more serious natnre is the class of cases in which in the process of development the rectum does not extend very near to the anus, but terminates in a blind pouch which in extreme cases may not approach nearer than to the brim of the pelvis. It is to this more serious class of these malformations that I desire to call the attention of the Society, giving two illustrative cases upon which I have operated, both successfully, as far as establishing an outlet is concerned, but in only one of the two successful in saving the life of the child.

Case 1st.—Male, probably an eight-month's child, small, but apparently well formed, the anus was patulous and natural in appearance, the bowels did not move, and an injection was administered by the nurse, who failed to discover the trouble: Unfortunately castor oil was administered, which caused straining. An exploration of the rectum revealed an occlusion at a point not less than an inch from the internal sphincter. This discovery was on the fourth day from birth. It then being night, arrangements were made for an operation next morning, my brother, Dr. Charles Duffy, assisting me. An incision was made upward in the normal direction of the bowel—I may say incision after incision—the parts being dragged down as much as possible with forceps and hooks. The child was very seriously wounded and a point reached beyond which it was hard to go, but the bowel was not reached. We then desisted from our attempt, regarding the case as likely a hopeless one. I returned next morning; the oozing of blood had ceased, and on passing the index finger up the incision I thought I could detect fluctuation. I passed a forceps in and seized the part, dragged it down and clipped it with a scissors. A quantity of meconium flowed—the bowel was open. In my first attempt I had dissected through the tissues up to the blind pouch, in which the bowel terminated; in my second it was comparatively easy to reach. The discharge from the bowel continued very freely. The child took nourishment and had no vomiting. Symptoms of peritonitis supervened, and the child died on the tenth day after the operation. The father of this child told me that the grandmother had a child in the same condition, which died in Goldsborough in the practice of Dr. Moore.

Case the 2d.—Child male; delivered by my brother, Dr. Charles Duffy, and the rectum being examined was found patulous for an inch within the anus; no obstruction was then noticed; the bowels

failed to move; an injection was tried, but was seen to return. A further exploration revealed an occlusion. *No cathartic was administered.*

I wish to call particular attention to the fact that this child was operated upon within twenty-four hours old, and that he was placed under the influence of chloroform sufficiently to render him insensible to pain.

A bistoury was inserted within the anus and the sphincter freely cut through in the median line in the direction of the coccyx. This greatly facilitated the operation, but added to the hemorrhage, which soon became formidable for so young a subject: With scissors and knife the incisions were carried forward in a direction along the hollow of the sacrum, at least sufficiently low to avoid the bladder, until it seemed that at least an inch of tissue had been cut through, which, considering the relative proportions of the young child, is a great distance for that region. The hemorrhage was very considerable, the bottom of the wound very hard to reach, and no knowledge as to where the bowel would be found, if, indeed, it could be reached at all.

At this juncture I took a hypodermic syringe, having a needle of large calibre, and pushed the needle along the index finger of the left hand, which had been pushed to the bottom of the wound, and thrust the needle deeply in a direction a little upward, having judged that the point of my finger was about at that point where the normal rectum in its descent from the left sacro-iliac synchondrosis reaches the middle line of the sacrum. I drew the piston back and the syringe contained meconium. It was no little trouble in such narrow and deeply-seated parts to follow this slender guide with instruments into the bowel, and before I succeeded in doing so the needle got out of the bowel.

A second time I introduced it, and my brother passing a notched probe along the needle, soon succeeded in getting an opening, through which the meconium passed. A uterine dressing forceps (on account of its long blades) was slowly worked through the wound and into the bowel. The handles were then separated so as to dilate or tear the parts a little.

For several days hemorrhage gave great trouble, and it seemed highly probable that the child would die from that cause. Injections of cold and of moderately hot water were used; also alum

water. A soft tube (one taken from a nursing bottle) about the size of a No. 10 English catheter was kept in for a time, but it caused straining and was hard to keep in situation.

The distress which this tube caused deterred us from introducing any other foreign body to control the oozing by pressure. The child was fed at short intervals with milk from the mothers' breast, even when only a few drops could be gotten down; also a little brandy and paregoric were given. Perhaps to the lady who had him in charge is due the credit of his having lived through this ordeal.

Dilitation with forceps was for a few days performed daily, and injections of warm water two or three times a day, given with a small piston syringe.

In about two weeks the opening had so contracted that a second operation was necessary. He was chloroformed and the closed blades of a uterine dressing forceps were pushed through the contracted part, then expanded, and an arrow bistoury run in, and an incision made in the middle line downward; after which a No. 12 Jacque's catheter was inserted; dilatations by the dressing forceps and catheter were practiced almost daily, but could not prevent the contraction. In a few weeks it would be necessary to cut again. For subsequent operations we used Civiales bistouri caché. setting the instrument at the desired depth and cutting as it was withdrawn.

To the present time four operations have been done since the first—the last, four months ago, more thorough than the rest, the concealed bistoury being made to cut in three directions, downward and bilaterally, since which time most of the dilatation has been done with the metalic nozzle of the suction syringe for injecting.

The child is now seven months old, well and fat. He has no trouble from his bowels that we can perceive; he continues to be rather pale, which seems to verify the notion of midwives, that losses of blood in early infancy produce this effect, even to a later period.

I trust I will be excused for further occupying your time by briefly reviewing the surgical literature of this subject, as given by some of the authors which have been at my command. I shall endeavor to show a better method for the performance of this operation than any I have yet heard of, though both Guersant and Ashurst refer to plans not very different.

First, as to when to operate, Guersant (Surgical Diseases of Children) says: "It is better not to operate immediately after birth, but wait until the meconium descends and dilates the lower part of the intestine." For the methods which have heretofore been practiced it would seem better to have a dilated intestine, but this advantage is purchased at some expense to the child, at least in some instances, as the meconium is formed during fœtal life and in some instances is discharged before the birth of the child. Dr. L. A. Sayre (Orthopœdic Surgery, second edition, 1883) gives a case upon which he operated, the obstruction being at the anus. He says: "At that time the child was but twenty-four hours old, and being born with an imperforated anus, was at the time of our arrival suffering severely and making great efforts at stool, the abdomen being greatly distended." Dr. Sayre operated with a trocar, inserting it half an inch. He does not treat of the more difficult class of cases in which the anus is perforated, but the rectum occluded. The case he relates serves to show the necessity of an immediate operation, at least in some cases. The first case reported in this paper, as well as some I have seen in medical journals, shows how unfortunate is much delay, though the delay in my first case was likely better borne on account of the premature birth of the child and consequent smaller quantity of intestinal contents. As to the manner of doing this operation there are different suggestions: Erichson advises, concerning the cases where the bowel terminates high up, that the dissection be carried on in the proper line "to a considerable depth." He gives three cases on which he operated which required a depth of "at least one and a half to two inches," but further on says the "perineal section seldom succeeds in saving life," and thinks it a question whether or not Amussat's or Littré's operations for artificial anus are not better. Bryant is more cautious. He says: "When the surgeon has no means of making out the true position of the bowel a cautious incision must be made," and that it "must not be made too high," and "should these means fail, all further attempts must be given up." He quotes Mr. Curling as proving that the perineal exploratory excision, unless undertaken with great care, does more harm than good, but with skill is capable of being followed with success.

If these children are not abandoned to die, then is there but one alternative in the cases difficult to reach from the perineum, and

that artificial anus in the groin or loin. But hear this: "Guersant opened the colon in the groin eleven times in succession, and once in the loin without saving one patient." And again, Holmes tells us that he had not "met with the account of any permanently successful operation since the publication of Rochard's paper." There are, however, instances of success.

Clarke (Manual of Surgery) says, rather dogmatically: "A sharp-pointed curved bistoury should be very carefully introduced upward and backward to the extent of an inch," and that after passing the finger if he fails to reach the gut, "the only remedy is to perform Amussat's operation." Guersant advises the use of a grooved trocar, which being introduced, a knife may be passed along the groove. This must be a great improvement on the cutting plan, provided there is any indication as to where to reach the bowel. However, the size of any trocar, that will without suction discharge meconium and at the same time carry a groove, is too great for an exploring instrument, especially if we bear in mind the anatomical proportions of the young child. Bryant says the blind thrusting forward of a knife or trocar is only to be mentioned with reprehension.

Ashurst, without advising any one course, says in occlusion of recrum there are four plans to choose between, Littré's or Amussat's operation for artificial anus or dissection from perineum, or "puncture with an aspirator over the needle of which a small canula may be afterwards pushed and the passage gradually dilated as recommended by Grimes of Liverpool." I had not seen this last suggestion at the time of the successful operation which I have reported, nor do I see how it could have been literally carried out had I seen it. This suggestion, and that of the grooved trocar of Guersant, are the nearest approaches to that plan which, in the light of the authorities briefly reviewed, and also of the cases with which I have met, would seem to me advisable.

The indications are to have a long fine needle (long enough to go any desired depth), with a canal through it large enough to allow the meconium to pass when acted upon by powerful suction, this needle to be attached to a transparent barrel or tube (glass) through which the smallest quantity of discharge can be recognized.

Second, have a slender grooved director with a short angle at the point through which a small tunnel or eye shall be made large enough to allow the needle to pass through it, or the necessity of

this grooved director might be obviated by having a long and slender blade fixed in a convenient handle, with one inch of cutting surface at the point; on the back of this cutting surface a short hook-like process to project at right angles and made so as to embrace half the circumference of the needle on one side. The needle might well be made to join its screw attachment on one side, so that this director or knife, as might be used, might be made to lie in contact with the needle its entire length, so that the cutting point would be in the direction of the needle.

With these instruments the incision through the sphincter to the point of the coccyx might not be necessary, though it would facilitate the operation at the expense of some hemorrhage and a larger absorbing surface through which septic material might enter the blood. The small needle should be passed upward, and a little backward, along the hollow of the sacrum in the usual direction of the bowel, avoiding the bladder in front and the blood-vessels behind and at the side.

Suction force should be put on this needle after it is introduced and it carefully pushed on to a considerable depth. If certain that the right direction is maintained, it might be carried to the brim of the pelvis, or the needle might be withdrawn and the direction changed, it being so small as not to materially injure the tissues; as soon as meconium is withdrawn we know we have entered the bowel; then, using the needle as a guide, we may pass the slender knife with the hooked process on the back near the point along the needle, this little hook embracing the needle compelling us to keep close to it; thus an opening may be made through which a director or other instrument may be passed before the needle is withdrawn. If it is thought best to use the director with the eye-hole above described, the needle must be passed through that before it is introduced, the director then pushed down to the obstruction and the knife guided along it, making a narrow channel along the needle in advance of the director, which, when completely in the bowel, is allowed to remain and the needle withdrawn. The channel may then be enlarged with Civiale's bistouri caché, or some one of the dilating urethotomes, as Otis', until a suitable tube can be introduced. I think the stitching down of the bowel to the lower margin of the wound, as is advisable, if possible, will generally be found impracticable in cases of much gravity. I have intended to have instruments made

especially for these cases (they would also be useful in other cases), but as yet I am not aware that any such have been made. A small needle of an ordinary aspirator would do if a piece of glass tube was attached close to the needle, so that a small quantity of discharge could be seen; an ordinary grooved director might be bent just at the point and a hole drilled through so that it could go over the needle; and if these means were not at hand, even the hypodermic syringe would be of the utmost importance, especially when, as in my last case, you had cut until you did not know whether to make any further attempt or to abandon the child to die, or, what is not much better, make an artificial anus on the plan of Amussat in the loin or of Littré in the groin.

The point of obstruction in the case reported now presents only a narrow ring near the anal orifice. This is not hard to explain: not only will the same distance be relatively less in the greater proportions of a larger child, but the lower segment of the rectum being attached to a comparatively fixed point, the longitudinal contraction of the cicatricial tissue will tend to draw it in that direction—also the natural prolongation of the intestinal canal extends downward.

REPORT OF THE CHAIRMAN OF THE SECTION ON OBSTETRICS AND GYNÆCOLOGY.

By Simmons B. Jones, M.D., of Charlotte, N. C.

Read before the Medical Society of North Carolina, at Raleigh, N. C., May 21, 1884.

Mr. President and Gentlemen :—The past year has been almost barren, so far as regards new operations and new instruments. The operations of Lawson Tait, Freund, Porro Muller, etc., have become matters for text-books, as also Tarnier's axis-traction forceps, hot water as a uterine hæmostatic, expression of the placenta and immediate closure of lacerations of the perineum. But each year brings experience of the older methods, and the facts which make improvement possible are developed and stand up for the coming of a future

genius. I shall not attempt to follow the example of previous reporters on this subject, for they have so completely covered the ground as to make a general report useless. I ask pardon for occupying most of my paper with the subject so important to the Gynæcologist and Obstetrician.

ANTISEPTICS AND THE GERM THEORY OF DISEASE.

This subject has caused more anxious thought and more keen debate during the past year than ever before, and as Lawson Tait, of England, and other distinguished surgeons of Europe and America have come out in open opposition to the whole theory and practice, it becomes a matter of the greatest interest to know,

1st. What evidence we have of the truth of the germ theory.

2d. The evidence, if any, of the good accomplished by the antiseptic treatment, and

3rd. The improvement in such antiseptic measures made during the past year. The researches of Pasteur, Tyndall and their co-laborers, have settled the scientific truth that no decomposition, or fermenting change, will take place in organic matter without the presence of living organisms. "These are the sole agents of corruption in nature." These living organisms are not of spontaneous origin, but are developed from spores that float in the air and abound in every pool, stream and river. They are vegetable in character, and the changes inaugurated by their vital activity determine decomposition, putrefaction and fermentation in organic matter. The putrefaction of the organic matter in all bad-smelling wounds only takes place from their growth and development, and the poisonous properties of such matter depends on the products of this fermentation. Pasteur, Koch, Ogston and many other trustworthy observers, have made investigations of microscopic organisms. Their life-history and their differences and capability of producing disease. In regard to their powers of producing disease, it has been shown that blood or pus taken from certain diseased animals will produce like disease when inoculated into a healthy animal, and that the blood of the diseased animal teemed with a certain definite organism. When filtered through clay cylinders, by which the micro-organisms were removed, it ceased to cause disease, but acted as a chemical poison. To eliminate all doubt as to the part played by bacteria and micrococci in the production of erysipelas,

Fehleisen, of Berlin, cultivated the chain micrococci by planting small pieces of the excised erysipelatous skin in gelatine. He thus inaugurated a series of artificial cultivations, by which films, consisting entirely of this micrococus were obtained. With these films seven men were inoculated, and six showed, after a period of incubation ranging from fifteen to sixty hours, typical erysipelas, setting in with rigors, high temperature and running the character-teristic course.

The chemicals produced during putrefaction have been investigated during the past year. They are called ptomaïnes, and upon them depends largely the deadly or benign nature of different varieties of micro-organism. For the ptomaïnes produced by some fermentations are harmless, and by others malignant.

CULTURE EXPERIMENTS.

Many micro-organisms have been artificially cultivated from generation to generation, and something learned in this manner about their growth and reproduction. In this way it has been shown that these beings increase, in a proper soil, in a perfectly marvelous manner. A pound or a gallon of harmless fluid containing organic matter in solution, can be rendered deadly by the addition of one drop of matter charged with septic germs, provided only a short time under proper conditions of temperature be allowed for the growth and reproduction of germs; and so a drop from this gallon will infect another portion of harmles matter. These culture experiments have been carried on through twenty-five generations, and the original disease was produced in all of its unmistakable virulence. The theory of living germs accounts satisfactorily for the natural history of diseases having a period of incubation. For a chemical poison would produce immediate effect upon absorption, and the gravity would be proportionate to the dose, but in a disease caused by germs, there would necessarily be a period required for their growth and reproduction. In many of these diseases the specific germs have been found, and the period of incubation, progress and end of the disease shown to coincide with the birth, reproduction, life and death of the bacillus. Even Mr. Lawson Tait and others who claim disbelief in the noxious power of germs, show a much more unreasonable dread of a poison more subtle than any ever extracted by the chemist. Mr. Tait uses every precaution that

cleanliness can suggest, and the whole conduct of the disbelievers in the germ theory of disease shows a belief in some poison that can lurk under the finger-nail or find a resting-place on a polished instrument. This invisible poison must be able to reproduce itself, must, in fact, be living, as we know of no chemical poison that is dangerous under such circumstances. No surgeon would be afraid to touch a wound because he had handled arsenic or strychnine, provided he had carefully washed his hands, and yet imagine the consternation that would be produced in Mr. Lawson Tait's operating room, if he were to find that one of his assistants or visitors had come from a post mortem or the room of a patient suffering with diphtheria, eyrysipelas or any disease now said to be septic? And yet the only thing that makes even the matter or the blood of these patients dangerous, is the presence of contemned bacteria? Finally, when we reflect that all men who have studied infectious diseases, in all ages, have recognized a mysterious poison that could not be seen, or weighed, or measured; when we see all the attributes of this poison fully explained in every particular by the germ theory; when we remember that almost all diseases of plants are of parasitic origin, and then add the positive evidence adduced in the preceding pages, I think it must be admitted that the theory is most probably true. If, then, it can be shown that the treatment naturally deduced from this theory has met with success, if the septic diseases have been prevented, or cured by means that could only act by the destruction of the lower forms of vegetable life, then I think the theory must be acknowledged to be true.

Is there any evidence that septic diseases have been prevented or cured by treatment directed to the destruction of germs?

I think this question must be answered in the affirmative, and in proof of my position I quote from Pitcher on wounds: "During the eighteen years which have elapsed since Joseph Lister began the use of carbolic acid as a germicide in the treatment of compound fractures in the Glasgow infirmary, the theory has been tested upon a vast scale by many methods and by a multitude of observers. * * * Out of thirty-five amputations performed by Mr. Lister just prior to the use of carbolic acid, sixteen died, nearly all from infectious diseases; out of forty amputations performed in the three years subsequent to the treatment, only three died of pyæmia, and one of these was affected when the operation was

performed. In 1877 Professor Volkmann reported that not a single case of pyæmia or septicæmia had occurred among his patients during three years, notwithstanding the deaths from this cause had been so numerous prior to the adoption of antiseptic precautions that the entire closing of the hospital seemed necessary.

Schede gives comparative tables of 321 uncomplicated amputations performed aseptically, and 377 treated by old methods—the mortality in the aseptic cases was, in round numbers, 4 per cent., and by the old method 29 per cent. The only change in all this was to the antiseptic method of treatment, and yet some have urged the point that surgeons are now more expert. Is there any reason in the idea that we can now perform a cutting operation better than Velpeau or other skilful surgeons of forty years ago? And even admitting that the modern surgeon is more expert, we can hardly think that Mr Lister or Mr. Billroth Volkmann, and a hundred other surgeons could all of a sudden have become more expert than they were the previous weeks or months? But the objectors further say that the good results were brought about by increased cleanliness? This, I believe, is to a large extent true, but cleanliness is simply an antiseptic precaution, for neither blood nor dirt of any kind is poison unless it contains germs of disease or the ptomaïnes resulting from bacterial fermentation. Mr. Lister's method of treatment is now too well known to require mention, except to say that the spray has been abandoned as troublesome, useless, and some assert, even dangerous, as it drives the floating particles of dirt deep into the wound.

What are the most approved methods of guarding wounds from septic infection and rendering septic wounds aseptic?

The easiest, the most important and the cheapest of all antiseptic precautions is cleanliness. Cleanliness, to be successful, must mean the removal of all pabulum from a wound that might serve to nourish bacteria and to prevent the introduction into the wound of any foreign matter. It means a clean dressing, clean air and a clean surgeon. The great antiseptic power of cleanliness is shown in Mr. Lawson Tait's success. Not less necessary in many cases, especially in hospitals and localities where the conditions necessary for the production of disease germs abound, is the use of proper antiseptics in the true sense of the word. I refer to the employment of substances as applications to wound surfaces, which destroy or

restrain the growth of septic germs. Of these substances many have been proposed, but I shall mention only three.

CARBOLIC ACID.

This substance was first introduced to the profession by Lemaire, of France, in 1863, but it is chiefly in connection with Mr. Lister's now famous method that it was made known to the world in 1866. It is quite reliable in comparatively weak solutions. One to twenty may be depended on with certainty to destroy all micro-organisms, except such resistant spores as those of anthrax. It will restrain the growth and development of the micro-coccus of pus in the strength of one to five hundred. It is readily diffusible, will mix readily with glycerine and then with water. It is not an escharotic in the strength required, and all parts of a wound may be freely bathed with it.

DISADVANTAGES.

It excites some local irritation, it forms compounds with albumen, so that its addition in larger quantities and in greater strength is necessary to secure complete disinfection of wounds. The irritation which the ordinary solutions produce determines increased capillary oozing and an excessive and prolonged serous flow from wounded surfaces. Eczema and erythema of the skin are not an infrequent effect of carbolic dressings. It benumbs the skin and is followed by branny exfoliation of the superficial layers of epidermis. This makes it very disagreeable to the surgeon. Its volatility lessons its usefulness as an agent to secure permanent antisepsis. Its toxic qualities are a very serious objection. Many fatal cases of poisoning by absorption of carbolic acid when used as an antiseptic application have been recorded. The importance of these disadvantages are so great as to narrow the use of this agent to employment only as an antiseptic bath for instruments.

CORROSIVE SUBLIMATE.

This is beyond all comparison the most available antiseptic. It is much more powerful than any other, killing the most resisting spores in a few minutes in the extreme dilution of 1 part in 1,000. It destroys the ordinary germs in the strength of 1 in 20,000, and restrains germ development in the dilution in 35,000. The subli-

mate solution is free from odor and does not irritate the wound. By its use the wound secretions decrease, and wounds previously offensive become speedily sweet. It cannot be employed for the disinfection of instruments on account of its corrosive action on the metal of which they are made.

IODOFORM.

The credit of having introduced this drug as an antiseptic dressing is due to Professor Van Mosetig Morshof, of Vienna, in 1880. This dry powder dressing offers many advantages. It restrains wound secretion, it destroys the vitality of whatever germs are present in the wound itself, it exercises an anesthetic effect upon the surfaces to which it is applied. Iodoform cannot be used for disinfecting instruments, sponges and the hands of the surgeon on account of its slight solubility. It is less absolute in its power to protect against erysipelas, its odor is pervasive and lasting and very disagreeable. When used very freely it is absorbed and causes rapid and feeble heart action, coma and paralysis of the organs of respiration. Autopsies have demonstrated in such cases the lesions of fatty degneration of heart, liver and kidney, and also meningitis. But the most remarkable manifestations of poisoning are the perversions of cerebral action, taking the form of mental derangement. In the present state of our knowledge iodoform should be used with much caution, not more than forty-five grains should ever be sprinkled upon a fresh wound. I think the following general rules will give an idea of the best methods of guarding against septic infection in gynæcology.

1st. Use all the rules of most perfect cleanliness of everything about the patient.

2nd. For the purpose of washing wounds, hands and dressings, use the bichloride of mercury.

3rd. For instruments, carbolic acid, and whenever a dry powder is considered best, iodoform.

ANTISEPTICS IN OBSTETRICS.

At the meeting of the New York Academy of Medicine, in December, 1883, Dr. T. G. Thomas read a paper on the prevention and treatment of puerperal fever. He announced puerperal fever to be a disease caused by specific germs, and gives the following rules for preventing the disease :

1. In all midwifery cases, whether in hospitals or private practice, the floor and the ceiling of the room in which the woman is to be confined should be thoroughly washed with a ten-per-cent. solution of carbolic acid or a bichloride solution, one to one thousand. The bedstead and the mattress should be sponged with the same solution. All curtains and upholstering should be dispensed with.

2. The nurses and physician should take care that all their clothing is free from exposure to the effluvia of septic infection, such as typhus, erysipelas, septicæmia, scarlet fever, etc., and if there has been any exposure in this direction, all the clothing should be changed and the body thoroughly sponged with a saturated solution of boracic acid.

3. As labor sets in, the nurse should thoroughly wash her hands with soap and water, remove the dirt from under the nails and administer an antiseptic vaginal injection, repeat it every four hours during labor, and keep a napkin wrung out of the same antiseptic solution over the genitals until the birth of the child.

4. Both doctor and nurse should wash their hands thoroughly with soap and water, and scrape the nails, and afterwards soak their hands for several minutes in a solution of bichloride of mercury, one to one thousand.

5. The third stage of labor should be efficiently produced, all portions of placenta should be removed and ergot administered in moderate doses three times a day, to be kept up for at least one week, to secure complete expulsion of the clots and closure of the uterine vessels.

6. The doctor should take nothing for granted, but at the conclusion of labor should carefully examine the vulva of the patient. If there is any rupture of the perineum, it should be closed at once by suture, and, if slight lacerations are found, they should be dried thoroughly with a cloth, and equal parts of a saturated solution of carbolic acid and per-sulphate of iron applied, and again the surface dried with a cloth and painted over with gutta-percha collodion.

7. Within six or eight hours after the termination of labor, syringe out the vagina with an antiseptic solution, and introduce a suppository of cocoa butter, containing from three to five grains of iodoform.

8. The vaginal injections should be repeated every eight hours; but in all cases of difficult labor, and in those in which instruments have been employed, they should be administered twice as often, and kept

up at least for ten days. The nurse must wash and disinfect her hands before every approach to the genital tract of the woman.

9. Employ a new gum-elastic catheter, which has been thoroughly immersed in an antiseptic fluid each time the bladder is evacuated, rather than trust the nurse to cleanse an old silver catheter.

10. The physician must inform himself by personal observation as to the competency of the nurse with regard to the use of the catheter, the administration of the vaginal injections and the introduction of the suppositories.

In our practice in North Carolina, where puerperal fever and other septic diseases are rare, the strict method of Dr. Thomas is not indicated. But it is our duty, from the information now before us, to use all of the simpler methods of antiseptic practice, such as disinfecting hands and instruments, and withal, perfect cleanliness. Also, to use the vaginal injection of a solution of bichloride of mercury whenever there is any foul odor about the lochia.

EMMET'S OPERATION FOR THE TREATMENT OF CERTAIN DISEASES OF THE FEMALE URETHRA.

In an address read before the New York Gynæcological Society Dr. Emmet gives a minute description of an operation designed for the exploration of the female urethra, and also for the relief of certain conditions that have heretofore given the surgeon much trouble. The design of the operation is to make a button-hole opening into the urethra, leaving the meatus intact, and it is performed by introducing a sound and cutting down on it at a point midway between the meatus and neck of the bladder. This opening is then enlarged by scissors in the median line, backward toward the bladder, and forward toward the meatus, taking care not to divide either the meatus or neck of the bladder. The incision along the vaginal surface should be made nearly a third larger than the one through the urethral mucous membrane, and it is important that the chief difference should be at the end of the line over the bladder, as we thus gain with the leveled angles a great advantage for examining the urethral tract, and also free the lower angle of incision at the neck of the bladder, so that if necessary the finger or a small speculum can be passed into the vesical cavity. So long as the vaginal surface is intact the parts about the neck of the bladder remain bound down by the direct connection of these tissues

with the sub-pubic ligament and pelvic fascia. This operation is advised in cases of very stubborn inflammation of the urethra, pedunculated, vascular and neuromatoid growths, prolapse of mucous and submucous tissues, fissures at the neck of the bladder, urethracele and laceration of the urethra from dilatation.

RUPTURE OF THE PERINEUM.

Dr. Emmet modifies his former views on this subject in the November number of the *Journal of Obstetrics*. He discards the idea of a perineal body, and says that the true way of repairing the injury is to bring together a portion of the posterior vaginal walls, and that the support is afforded, not by the triangular perineal body, but by the pelvic fascia.

Dr. Carter, in the *Medical News* of July, suggests a method for prevention of rupture of the perineum by tiring out the muscles, especially the sphincter and levator anni. This is accomplished by introducing two fingers into the vagina and one into the rectum, and making steady tractiön downward and forward. This is not altogether a new procedure, but I do not recollect to have seen it mentioned in any former report.

EXPLORATORY INCISION.

The progress of abdominal surgery during the past few years has removed to a great extent the former dread of opening the cavity of the peritoneum. Lawson Tait, in his book, "Diseases of the Ovaries," boldly advises that whenever a grave trouble is suspected in the abdominal cavity, it is the duty of the surgeon to open the cavity and explore the contents; and if the trouble is found not curable, to close the opening. This has been done many times, and I have not seen a single death reported.

CREDÉ'S METHOD.

The value of this procedure has been questioned of late, and Fehling has made a comparative trial of this and the expectant plan. He used Credé's method in ninety cases and the expectant plan in ninety-five. By Credé's method the loss of blood averaged 5½ ounces, and the time taken for the delivery was 7½ minutes. The membranes did

not come away entirely in five cases. By the expectant plan the loss of blood was 6 7-10 ounces, the time 13 1-10 minutes, and a portion of the membranes was retained in four cases, showing no great difference in results of the delivery by either method. Runge, Dohrn and Schultze do not approve of expression. Ahlfeld believes there is greater danger of secondary hemorrhage and of leaving portions of the membranes in the cavity of the uterus to become a nidus of septic disease. Heger and Freund prefer absolute expectancy; a majority, however, prefer the speedy method.

MAMMARY ABSCESS.

The German and American authorities now consider fissures and erosions of nipple the most frequent cause of mammary abscess. The wide-mouth breast-pump and rough friction are also instrumental in producing this troublesome complication. As the suppuration is caused by germs introduced into the fissures and erosions, the obvious prophylactic measure is to protect such little wounds from septic infection, and to promote their healing as quickly as possible. Dr. Wylie, of New York, recommends applying a blister over the breast to abort suppuration. Calx sulphurata has been strongly recommended for the prevention of abscesses in other localities, and I have thought I obtained benefit from its use in the only two cases I have seen in the past year. Iodide of potassium, combined with quinine, is now recommended as the most efficient prescription for suppressing the secretion of milk.

ABSORPTION OF SUBSTANCES BY THE UTERUS.

In a report from the *Obstetric Clinic* at Giessen, in 1883, Ahlfeld gives the details of some experiments made by him on this subject. He arrives at the positive result that in the case of a contracted uterus the absorption is very much less than when the organ is relaxed, and that the absorptive power is greatest from the third to the sixth day. The experiments were made with dilute solutions of salicylic acid, the absorption being proved by the demonstration of the drug in the urine. This shows that care should be taken, especially from the second to the seventh day, that there is no septic matter to be absorbed.

MASTURBATION AS A FACTOR IN THE PRODUCTION OF GYNIC DISEASES.

In an article on this subject, June 1883, Dr. J. Milne Chapman draws the following conclusions:

1. Masturbation exists to a considerable extent in women.

2. That it is accomplished, as a rule, by manipulation of the external parts.

3. That its accomplishment by the introduction of foreign bodies into the vagina is rare.

4. That decided and constant changes of the external organs of generation result from its long-continued practice.

5. That the following external changes and symptoms are generally sufficient to establish a diagnosis. An increased appearance of size of the external organs, due partly to their being separated and spread out, and partly to a real increase in size of the clitoris with its prepuce, and of the labia minora. The clitoris is frequently found situated higher up or further away from the vaginal outlet than usual. There is also an alteration in color, usually a bluish mottled appearance of the labia minora, which are at the same time dry and rough. There may be extreme redness from recent irritation, a relaxed and patulous condition of the entrance of the vagina. Sometimes the labia minora are two or three inches in length. An abnormal sensitiveness will be met with on touching the external parts, and possibly a greater degree of moisture than usual. The clitoris will usually be found erect, and on touching it the patient will almost invariably show her want of self-control. On passing the finger into the vagina, there will often be felt a spasmodic contraction of the lower inch and a half of the canal. The cervix is abnormally soft, and the os may be gaping. I have described the symptoms so minutely because I believe many cases of dysmenorrhœa, leucorrhœa and ovarian neuralgia that baffle treatment are caused by this baneful habit. Speaking of the orgasm in the female, Dr. S. E. McCully, of Ontario, says: "There is an erection of the clitoris, and so long as the orgasm continues, its muscles contract as regularly as do those of the male in the act of emission of semen. At the same time the whole machinery of the muscles of the uterus is put in motion. The uterus sways from side to side, its whole body rises and falls from one-eighth to one-quarter of an inch, and

the annular muscles of the cervix can be distinctly felt contracting. Before an orgasm is induced every particle of mucus may be washed from the vagina, a rubber cap may be placed over the cervix, and when the act is over, if the rubber be removed, it will be found to contain from a half to a drachm of transparent semi-fluid substance, resembling the white of an egg." "If," says the same writer, "the act of masturbation brings into play so many forces, and if the orgasm is being constantly induced, it can be readily understood how it happens that soon a dangerous train of symptoms is set up, that an unsuspecting physician may find it very difficult to control."

HYDRASTIS CANADENSIS.

Schultze has made some experiments with this drug in the treatment of uterine hemorrhage. He used the fluid extract, twenty drops three times a day, and says that it acts on the female genital apparatus as a whole, and not alone on the mucous membrane. It is often effective in cases where ergot has failed. Favorable results were obtained mainly in metrorrhagias due to myomita, in hemorrhages in the puerperium, in menorrhagias of young persons from fifteen to eighteen years of age. Also in those cases of endoarteritis in which curetting had failed. In most cases he commenced the use of the drug one week before the onset of the menses, and when the catamenia recurred with undue frequency, even longer previous to the normal date of their appearance. In several cases the flow became not only less profuse and shorter in duration, but several times it failed to set in altogether. In cases of myomata the hemorrhage disappeared often for months.

In concluding this paper, I again ask pardon of the Society for touching on so few of the many interesting subjects now being talked and written about in every civilized country. I also wish to say that any information for which I have not given due credit to authors was obtained from Pilcher on wounds, Gradle on the germ theory of disease, and recent numbers of the *Journal of Obstetrics.*

THE STUDY OF INSANITY—ITS IMPORTANCE AND ITS NECESSITY.

By J. D. Roberts, M.D., Superintendent Eastern North Carolina Insane Asylum, Goldsborough, N. C.

(Read before the Medical Society of North Carolina, at Raleigh, May 21st, 1884.)

Mr. President and Gentlemen of the Medical Society of North Carolina:

The subject of insanity, in all its phases, beliefs in regard to its causes, treatment, etc., has undergone a revolution in late years, both in the minds of the medical profession and the laity. The different steps of this revolution, from the time when the insane man was considered as being possessed with a devil, until now that insanity is recognized as a disease, the scope of this paper and the time at my command will not admit of discussion. Insanity is now universally recognized as a disease, and as such is amenable to treatment, and to the physician is the task of this treatment given. This task has been heretofore assumed by comparatively few members of the profession, and generally then in connection with asylums for the special care of the insane.

According to the tenth census (1880) of the United States, we have within the bounds of our State 2,028 insane—an increase since 1870 of 62 per cent. We have now asylum accommodations for 600 patients, thus leaving, even with no allowance for an increase in the number of insane since 1880, in round numbers, 1,400 insane uncared for in asylums.

The high per cent. of increase here given is probably due as much, if not more, to more careful enumeration in the last census, than for previous years. Mr. Wines, special agent for gathering statistics of the defective classes claims, that former statistics were unreliable, and that much more care was bestowed on this subject in the tenth census (1880) than in any previous enumeration.

From information received of Drs. Grissom and Murphy, together with my own experience, I am able to compute the proportion of chronic to acute insane last year, considering a case to be chronic

when the duration of the attack has lasted for over one year. In this connection I will remark that the chances for final recovery become exceedingly small in chronic cases. In another connection I shall allude to the subject of early treatment, etc.

Of the admissions to the asylums of this State last year (1883) the per cent. of acute cases averaged 32 for the three asylums. The Western Asylum was opened last year and received many of its patients directly from the Asylum at Raleigh, as their homes were in the Western counties. The per cent. of acute cases admitted there was 17. For the other two asylums the average was something over 40, which is perhaps nearer correct than the first figures, namely, 32. Of 565 patients now under treatment about 8 per cent. are considered curable, with perhaps as many more with a doubtful chance of recovery.

From these figures it will be seen how inadequate are our asylum accommodations to our insane population, and the importance and the necessity for some further relief for this unfortunate class can be realized. The time has arrived, if we consider the increase of insanity and other facts in regard to the subject, when we may well ask, Should not the general practitioner devote more time and attention to this branch of medicine? It is one of the objects of this paper to urge upon the profession the importance of, and necessity for, a more extended knowledge of insanity. While but a tyro in the specialty, being in a position for observation and seeing how little study is devoted to the subject, I am impelled by the ignorance displayed to enter this plea: One has but to examine the applications sent for the admission of patients into our different asylums to see the deplorable state of even general information that is exhibited. In looking over these papers it is often wondered as to whether the bad state of affairs should be charged to ignorance, carelessness or indifference, and this, too, when the information given is under oath. These applications are for the purpose of giving those in charge such a history of the case or such information in regard to it as to enable them to form some judgment of the probability of cure, desirability of admitting the patient, and assist in deciding the course of treatment. These applications often contain grave mistakes made by physicians in committing patients to an asylum and the want of discrimination as to the different phases of the defective classes, namely, idiocy, imbecility and insanity. While an idiotic

patient or an imbecile may be troublesome at home or in the county's care, still it does not follow that such persons should be pronounced insane and sent to an asylum. With the small asylum accommodation, in comparison with the total number of insane, such cases being incurable should not be sent away from home at all, as other patients, perhaps more curable, are thereby crowded out of the asylums. There is often a desire of relatives and county officials to be relieved of the care and expense of patients, but it would be going too far to say that the physician lent his aid to the accomplishment of such a desire against his professional opinion. I am sure that were the subject of insanity more generally understood, and its different phases studied more carefully, there would not be this difficulty to contend with.

The utter want of the history or information above alluded to, or its misleading character, has been felt by all the institutions of the State. Though the questions propounded as the law directs are furnished, with full instructions, in blanks, the applications sent are often unintelligible. So, too, acting under the information given therein, idiots and imbeciles have been admitted as insane, and I venture to say that each institution now has cases of this kind, admitted under the impression that they were insane, and as such entitled to the care of an asylum.

The importance of a more extended knowledge of mental diseases is clearly shown in the fact that most, if not all the first-class medical colleges of the day, have lecturers on the subject, and from the number of new books on psychology and psychological subjects many of gigantic intellect have devoted their time and talents to the elucidation of this question, still there is a dearth of psychological work in the ranks of the general profession. Specialists in any department, devoting, as they do, attention to one branch, are expected to make more advancement than others; yet it is not necessary, nor is it so, that all progress comes from them, and it is the general practitioner that makes practical application of knowledge gained to the cure of disease.

Owing to the want of sufficient accommodation for the insane, the larger portion of our asylum receptions are now, and are liable to be for some time, of the chronic class. It is safe to say that the per cent. of our cures would be doubled did the patients receive the necessary treatment early in the disease. The lamented Kirkbride, for over forty years the Superintendent of the Pennsylvania Hospital for the Insane, held that insanity was as curable as any other serious disease, and that, if recognized and treated early, 80 per cent. were curable. From the

statistical tables of twenty-three asylum reports for the year 1883 the average per cent. of cures is only 30.72. This includes all classes, but as there are but few asylums in the United States for chronic or incurable patients, the figures are a fair criterion of what our asylums are effecting in the way of cures. While I have not transferred these statistical tables here (for want of room), it is certainly shown by them that those asylums with the largest per cent. of cures received the smallest number of chronic cases.

All authorities agree as to the importance of early treatment in insanity, and not having sufficient asylum accommodation for the rapid increase, it becomes necessary to look to the general practitioner for its recognition and early treatmeut. On this subject I cannot do better than to reiterate the views expressed by the late Dr. DeRosset in the NORTH CAROLINA MEDICAL JOURNAL, Vol. I., No. 2, in an article entitled "The Early Recognition of Lunacy." Dr. DeRosset says: "It cannot be too strongly urged upon the profession, particularly general practitioners, that with them, far more than with the asylum, superintendents are the greatest promise of material advance in the cure of insanity; for every part of its history has been diligently explored, except that which exists before it comes under the observation of the expert. The family physician alone, from his constant and intimate relation with his patients, is in a position to see the mental cloud while it is yet a mere speck upon the horizon, and to foretell, in its curable stages, a disease which, if it pass unheeded, sooner or later numbers its victim among the confirmed insane and reduces his chances of recovery to those of the average asylum inmate—seldom more than thirty per cent. No sympathy with family pride or any baser motive should be allowed to oppose itself to the practitioner's duty—humanity, morality, science, all demand a recognition of facts when their existence is declared by the methods which we shall later point out.

"Let it, then, be well impressed that in the history of nearly every case of lunacy there is a prodromic period, when reason is as yet uninjured, and which is possible of recognition, and in which a favorable prognosis, under wise treatment, is fully warranted. There is no sudden leap from reason to dementiæ—*natura non facit saltus*—the passage from one to the other is through an infinite variety of gradations, etc."

Beyond these facts of difficulty in obtaining asylum treatment and the advantage of early observation enjoyed by the general practitioner,

there is a growing demand for home treatment. Friends are often loth to commit their afflicted ones to the care of strangers and hirelings, and find a natural repugnance to the notoriety consequent upon sending a patient to an asylum—an unwillingness to allow a family affliction of this character to be known—and, hesitating long after the recognition of the disease, valuable time in its treatment is lost.

There is among alienists and psychologists, as there is with the laity, a wide difference of opinion on the question of home versus asylum treatment of the insane. It is not my purpose to enter into the discussion of this question now. In its early stages intelligent, well-directed home treatment, when it can be procured, will succeed. If a case is to be sent to an asylum, the earlier it can be done the better. Violent cases, homicidal or suicidal patients, those with destructive tendencies, chronic cases of dangerous proclivities, etc., will probably require the care of an institution suited to their needs.

It can be claimed, and with much reason, too,, for the claim that the general practitioner has not the time to devote to the study of those diseases generally turned over to the specialist. It is fashionable, I know, and the idea is growing, too, to make a specialty of almost every branch of medicine. In our large cities, where our physicians are in large number, this may do very well. The general practitioner, though, the "country doctor," whose nearest professional brother is many miles off, can but keep abreast of the times in all branches, for he knows not what day or hour he may be called on to treat almost any of the numerous diseases that "flesh is heir to." Though he may not be as well prepared to treat cases generally going to specialists, as the physician who devotes his whole time to that particular branch, yet it is especially important that a disease as grave as insanity, with the fearful consequences following neglect of treatment, should receive more attention than it does, in order that an early diagnosis might be made and appropriate treatment instituted. When a case of insanity has progressed to a stage where the whole character is changed, where there is a complete difference as to his behavior, perhaps wild, violent, etc., the diagnosis is easy. But in its commencing stage it is not so easy, and the diagnosis requires study to detect the delicate shades between mental health and disease.

The literature of psychological medicine, especially from an American standpoint, is not up with the times. We have had issued in the last few months several new works, but I regret to say that they are

not reliable for the general practitioner. They are all written by specialists and nearly all take a stand antagonistic to insane asylums. As is well said in an editorial in *Gaillard's Medical Journal* for January, 1884: "If there is any one work which is more wanted at the present time by the medical profession than all others, it is one on the subject of psychiatry—one that is simply, clearly, intelligibly written, one in which there is no evasion of the truth—in which the author is willing to openly confess ignorance, and not always trying to conceal this by hiding it amid a mere garnature of words. A work totally free from that great and very familiar folly of putting forth a pendantic technology in which to disguise a patent inability to indicate demonstrable truth. A work, in brief, in which the athor will describe, in plain, simple, intelligible language, what he can prove to be the truth, and in which he will, when it is incumbent on him to do so, openly confess his ignorance and that of the specialist whom he seeks to represent.

"Such work would be bought by almost every physician and attorney in this country. It is the great want of the medical and legal professions, and one which is to-day wholly unsupplied."

These remarks are on the subject of psychiatry, and in the same editorial, speaking of the new books recently issued on the subject of insanity, he says:

"One has but to examine these volumes cursorily to find endless antagonisms, inconsistency, contradiction and ambiguity."

The laws of our State, as, indeed, do all civilized countries, recognize insanity as a disease, and requires the opinion of a medical man as to the fact before a man can be committed to an asylum. Unfortunately, it does not state the qualifications, and so any one with an M.D. attached to his name is competent, under the law, to pass on this subject. The State already recognizes the importance of the State Medical Society in the laws in regard to examinations for license, and in the State Board of Health, (?) and it would be well to further recognize the importance of our profession by an amendment to the present asylum laws, requiring the examining of physicians to be eligible to membership in the State Medical Society.

That we have need of a higher education, both literary and medical, among our doctors, is acknowledged by all. We should, perhaps, look to the medical colleges for this higher education, and to them, too, for more information on the question of insanity. At this time, when

the obtaining of a medical diploma is so easy, we cannot wonder that we have so many entering the profession totally unprepared for the work.

It is not though, to these cheap-John doctors alone that these remarks apply, or to them alone that this plea is made. It is to the general profession, to the physicians that are scattered throughout the State, that I appeal for an increased study of the diseases of the mind. The times demand it; the increase of insanity demands it; suffering humanity demands it; the want of sufficient asylum accommodation demands it; our patients throughout the length and breadth of the land demand it. And, gentlemen of the profession, I stand here before you to-day and urge upon you the importance of this question. I adjure you to think of the miseries of a blighted reason, of a dethroned mind, of a gigantic intellect, once towering to the skies, capable of swaying the multitudes by the stupendous power of his brain—all, all, groveling in the abyss of despair or lost in the mazes of a hopeless dementia. And consider how little might have been the means of saving a human being from such destruction—how a knowledge of the case might have, in its incipiency, enabled you to stem the tide and save a fellow-creature from mental ruin. I plead with you, gentlemen, to take hold of this matter, for with you of the general profession, more than with the asylum superintendent, lies the power to stay the progress of this crying evil.

REPORT OF THE SECRETARY

OF THE

NORTH CAROLINA BOARD OF HEALTH,

ON ONE ASPECT OF THE

SUBJECT OF MEDICAL EDUCATION, AS SET FORTH IN THE WORK OF THE MEDICAL EXAMINING BOARD.

M. WHITEHEAD, M. D.,

President of the North Carolina Board of Health:

DEAR SIR:—At the last meeting of the State Medical Society, in Raleigh, on the 20th—23d May, the work of the Board of Examiners came prominently forward, it being the outgoing of the *fourth* and incoming of the *fifth* Board The retiring Board, through its Secretary, read an account of the work done for six years, and reviewed the entire work of all the Boards since their inauguration in 1859. This report was thoughtfully received, as you will observe by examining the transactions of the State Medical Society for 1884, and it was earnestly desired that the outcome of the endeavors of the profession, as partially represented in such a practical and concrete form, should be fairly set before the people of North Carolina. It was justly conceived that if the people were fully apprised of the fidelity with which the State Society and Board of Examiners had used its trust, many times doubling the talents entrusted to them, that they the people would in due time instruct their representatives to accord due credit for such work, and demand that the powers of the Board of Examiners should be increased. It seemed to be the unanimous feeling of the

Society that there was not a wide-spread information among the people of the State as to our aims and objects, and that only a small number had ever conceived the truth of the situation, which is this: that the medical profession of the State had voluntarily taken upon themselves the task of working out the problem of providing the people with better doctors, and so in a great measure adding to the comfort and happiness of the people, and prolonging life; furthermore, that they had undertaken the work at their own expense, with no expectation of present or future pecuniary reward.

The Board of Health, willing to do its share in the work of informing the people as above recited, agreed to take up the subject, and add such matter as would give a proper conception of what was being done by neighboring States in the same direction, and so rest our cause upon the actual facts. Respectfully yours,

THOMAS F. WOOD, M. D.,
Secretary.

Wilmington, N. C., Sept. 4th, 1884.

THE WORK OF MEDICAL PROGRESS IN NORTH CAROLINA.

WHAT OTHER STATES ARE DOING.

Half of the indifference of a people to their own institutions lies in a lack of information of their working, of their aims, of their possibilities. Animosity frequently has its origin just here, because not being informed and not knowing where to go to seek for information, they take scraps of knowledge at second-hand and upon this found their dislikes. The Medical Profession does not propose now to come before the people of the State to set forth complaints, for the object of this report is to greet the thinking citizen with a cheering account of stewardship in one field of its labors. It comes as a profession whose interests are inseparably connected with the every day affairs of the men, women and children of this land, to show what a satisfactory result has been wrought out from small beginnings, and to enlist them in their own cause—for it is only in part the cause of the doctors—and to say that encouraged by the past, rich in experience gained by twenty-five years of conscientious endeavor, they are still willing to take the lead.

When the Legislature of 1859 passed the law incorporating the Medical Society of North Carolina, and the Board of Medical Examiners, the importance of the act was not in the smallest degree realized by any but the authors of it. The opposition directed against it was of vital force, although it perhaps was the fear on the part of the lawmakers that they might go too far, in an untried field, rather than any intention of doing harm. At any rate, all motives aside, the law as it was first recorded was emasculate and hardly worthy of acceptance on the part of the memorialists. The amended form of the law, as it now stands is as follows:

MEDICAL SOCIETY.

SEC. 3121. The association of regularly graduated physicians, calling themselves "The State Medical Society," is hereby declared to be a body politic and corporate, to be known and distinguished by the name of "The Medical Society of the State of North Carolina."

SEC. 3122. No person who shall practice medicine or surgery, nor any of the branches thereof, nor in any case prescribe for the cure of diseases for fee or reward, unless he shall have been first licensed to do so in the manner hereinafter provided: *Provided*, no person who shall practice in violation of this chapter shall be guilty of a misdemeanor.

SEC. 3123. In order to the proper regulation of the practice of medicine and surgery, there shall be established a board of regularly graduated physicians, to be known by the title of "The Board of Medical Examiners of the State of North Carolina," which shall consist of seven regularly graduated physicians.

SEC. 3124. It shall be the duty of the said Board to examine all applicants for license to practice medicine or surgery, or any of the branches thereof, on the following branches of medical science: anatomy, physiology, surgery, pathology, medical hygiene, chemistry, pharmacy, materia medica, therapeutics, obstetrics and practice of medicine, and if on such examination they be found competent, to grant to each applicant a license or diploma, authorizing him to practice medicine and surgery, or any of the branches thereof: *Provided*, five members of the Board shall constitute a quorum and four of those present shall be agreed as to the qualification of the applicant.

SEC. 3125. To prevent delay and inconvenience, two members of the Board of Medical Examiners may grant a temporary license to any applicant and make report thereof to the next regular meeting of the Board for confirmation: *Provided*, such temporary license shall not continue in force longer than the next regular meeting of the Board, and such temporary license shall in no case be granted after the applicant has been refused a license by the Board of Medical Examiners.

SEC. 3126. The Medical Society shall have power to appoint the Board of Medical Examiners.

SEC. 3127. The Board of Medical Examiners shall assemble at the same time and places, when and where the Medical Society assembles, which Society shall assemble at least once in every year at such time and place as the said Society, at its next preceding meeting,

shall have fixed; and the said Board shall remain in session from day to day, until all applicants who may present themselves for examination within the first five days after its meeting shall have been examined and disposed of.

Sec. 3128. The Board of Medical Examiners are authorized to elect all such officers, and to frame all such by-laws as may be necessary, and in the event of any vacancy by death, resignation or otherwise, of any member of said Board, the Board, or a quorum thereof, is empowered to fill such vacancy.

Sec. 3129. The Board of Examiners shall keep a regular record of its proceedings in a book kept for that purpose, which shall always be open for inspection, and shall cause to be entered on a book kept for the purpose the name of each applicant for license, and the name of each applicant licensed to practice medicine and surgery, and the time of granting the same, together with the names of the members of the Board present, and shall publish the names of those licensed in two of the newspapers published in the city of Raleigh, within thirty days after the granting of the same.

Sec. 3130. The Board shall have power to demand of every applicant thus licensed the sum of ten dollars before issuing a license or diploma, and the sum of five dollars for each temporary license, to be paid to the Secretary of the Board.

Sec. 3131. The members of the said Board shall receive as a compensation for their services four dollars per day during the time of their session and in addition thereto their traveling expenses to and from their places of meeting by the most direct route from their respective places of residence, to be paid by the Secretary of the Board out any moneys in his hands, upon the certificate of the President of the Board of Medical Examiners.

Sec. 3132. Any person who shall practice medicine or surgery without having first applied for and obtained license from the said Board of Medical Examiners, shall not be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery or any of the branches thereof.

Sec. 3133. The said Board shall have power to rescind any license granted by them when upon satisfactory proof it shall appear that any physician thus licensed has been guilty of grossly immoral conduct.

Sec. 3134. The Secretary of the Board of Medical Examiners shall give bond with good surety, to the President of the Board, for the safe-keeping and proper payment of all moneys that may come into his hands.—Chap. 34, new Code of N. C.

A careful perusal of the above law, in the light which we are enabled to throw upon it, will convince any one of its inadequacy. That it has worked well, and that it has materially accomplished the intentions of the framers of it, is due to the moral influence which the profession has been able to throw around it, and as a consequence, to the support which the public—at least that portion of it informed of its objects—gave to its maintenance.

Now having presented the law, almost sterile in its requirements, it gives us pleasure to lay before the citizens of North Carolina the fruits which the law has produced:

REPORT OF THE FOURTH BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA, AT THE CONCLUSION OF THEIR TERM OF OFFICE—(1879–'84)— MAY 25TH, 1884.

The Legislature of North Carolina, on the 17th of February, 1859, passed "An act to incorporate the Medical Society of the State of North Carolina, and for the establishment of a Medical Board of Examiners." In this paper a brief history is given of the work accomplished by the Board of Medical Examiners during the twenty-five years of its existence.

The law as originally passed required the Medical Examiners to meet alternately in Raleigh and Morganton, on the first Monday in May of every year. Only in 1881 was the law so amended that they were allowed to meet at the same times and places as the Medical Society assembled, and traveling expenses and a small per diem were to be paid out of such money as they might receive from the granting of licenses. That under such difficulties and hardships the Board maintained its existence, is certainly creditable to the medical profession in North Carolina.

The first Board, elected in 1859, was composed of the following gentlemen:

Dr. JAS. H. DICKSON, of Wilmington, President.
" CHAS. E. JOHNSON, of Raleigh.
" CALEB WINSLOW, of Hertford.
" OTIS F. MANSON, of Townsville, now of Richmond, Va.

Dr. WM. H. MCKEE, of Raleigh.
" CHRISTOPHER HAPPOLDT, of Morganton.
" J. GRAHAM TULL, of Newbern.
SAMUEL T. IREDELL, Secretary and Treasurer.

At their first meeting, in 1859, one applicant was examined and granted license, viz :

Lucius C. Coke, M. D., Palmyra, Halifax county.

In 1860, seventeen licenses were granted and one refused.

In 1861, twelve licenses were granted.

In 1862, one license was granted and two refused.

There is no record of any meeting of the Board during the three following years.

In 1866, the second Board was elected :

Dr. N. J. PITTMAN, Tarboro, President.
" E. BURKE HAYWOOD, Raleigh.
" R. H. WINBORNE, Edenton.
" S. S. SATCHWELL, Rocky Point.
" J. J. SUMMERELL, Salisbury.
" R. B. HAYWOOD, Raleigh.
" M. WHITEHEAD, Salisbury.
" WM. LITTLE was chosen Secretary and Treasurer.

Dr. WHITEHEAD resigned in 1868, and Dr. J. F. SHAFFNER, of Salem, was elected to fill the unexpired term.

In 1867, five licenses were granted.

In 1868, there is no record of any meeting. (*Seven licenses were granted.)

In 1869, eight licenses were granted.

In 1870, five licenses were granted.

In 1871, one license was granted.

In 1872, two licenses were granted.

The third Board was elected in 1872 :

Dr. CHARLES J. O'HAGAN, Greenville, President.
" W. A. B. NORCOM, Edenton.
" C. TATE MURPHY, Clinton.
" GEORGE A. FOOTE, Warrenton.
" J. W. JONES, Tarboro.
" R. L. PAYNE, Lexington.
" CHARLES DUFFY, Jr., Newbern, Secretary and Treasurer.

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* According to the official report of the Medical Society of N. C., the Board of Examiners at the meeting in Warrenton, in 1868, licensed the following gentlemen: Drs. F. J. Haywood, Jr., Raleigh; Samuel Brietz, Salem; Chas. H. Barron, Edgecombe county; J. B. Williams, Warren county; Walter Debnam, Wake county; E. Porter, Onslow county; B. P. Alston, Warren county.

In 1873, nine licenses were granted and one refused.

In 1874, seven licenses were granted.

In 1875, thirteen licenses were granted.

In 1876, seven licenses were granted.

In 1877, fifteen licenses were granted.

In 1878, fifteen licenses were granted.

In 1878 the fourth Board was elected :

Dr. P. E. HINES, Raleigh, President.
" T. D. HAIGH, Fayetteville.
" R. I. HICKS, Williamsboro.
" GEORGE L. KIRBY, Goldsboro.
" THOMAS F. WOOD, Wilmington.
" JOS. GRAHAM, Charlotte.
" H. T. BAHNSON, Secretary and Treasurer.

In 1880 Dr. R. I. HICKS resigned his position, and Dr. RICHARD H. LEWIS, of Raleigh, elected to fill the vacancy.

In 1879, thirty-four licenses were granted—five refused.

In 1880, twenty-six licenses were granted—seven refused.

In 1881, thirty-eight licenses were granted—five refused.

In 1882, twenty licenses were granted—five refused.

In 1883, thirty-one licenses were granted—one refused.

In 1884, thirty-four licenses were granted—two refused.

One license was rescinded on account of grossly immoral conduct of the recipient.

Previous to the organization of the present Board a branch of medicine was assigned to each Examiner, who for the six years of his term conducted examinations on that branch alone. The present Board, at its first meeting, instituted a system of rotation, so that each member would examine on a different branch each year. The first examination of the applicant for license was conducted privately by each Examiner. The notes of these examinations were afterwards compared at a meeting of the whole Board, and the result determined by vote. In cases where a re-examination was required, this was conducted before the whole Board, and a member of the Board was selected by the President to examine on such branches as had at the first examination been assigned to other members of the Board. The fairness of this method cannot be questioned, and the unanimity of opinion thus acquired by the whole Board, in the case of each applicant examined, was most remarkable. In the light of these explanations the following tabulated statement is interesting :

From	University of New York	21	graduates licensed,	none refused.	
"	Bellevue Hospital Medical College	21	" "	"	"
"	Jefferson Medical College	21	" "	"	"
"	University of Virginia	5	" "	"	"
"	Medical College of South Carolina	6	" "	1	"
"	University of Maryland	29	" "	"	"
"	University of Pennsylvania	5	" "	"	"
"	Long Island College Hospital	2	" "	"	"
"	Philadelphia University	1	" "	"	"
"	University of Edinburg, Scotland	1	" "	"	"
"	Harvard College	1	" "	"	"
"	Medical College of Richmond, Va	1	" "	"	"
"	University of Iowa	1	" "	"	"
"	Coll. Physicians and Surgeons, N. Y.	2	" "	"	"
"	Washington University, Baltimore	15	" "	3	"
"	Coll. Physicians and Surgeons, Balt.	25	" "	4	"
"	Louisville Medical College	11	" "	1	"
"	Kentucky School of Medicine	1	" "	1	"
"	Baltimore Medical College	1	" "	1	"
"	Central Univ., Louisville, Ky.,	0	" "	1	"
"	Edenboro College, N. C.	0	" "	1	"
"	Vanderbilt University, Nashville	3	" "	1	"
"	University of Tenn., Nashville	0	" "	1	"
"	Atlanta Medical College	1	" "	1	"
	Non-graduates	9	" "	9	"
	Total	183		25—208.	

RECAPITULATION.

The first Board of Medical Examiners examined thirty-four applicants, granted license to thirty-one and refused three.

The second Board granted twenty-one licenses.

The third Board granted sixty-six licenses and refused one.

Under these three Boards, therefore, a total of one hundred and twenty-two were examined, of whom one hundred and eighteen received license.

[NOTE—It is probable that no accurate record was kept of applicants who were refused license.]

During the six years of its existence the fourth Board of Medical Examiners has examined two hundred and eight applicants for license. To one hundred and eighty-three of these licenses were granted. Twenty-five were found unfit to receive license, and of this number sixteen were graduates of chartered medical schools.

In conclusion, the Board return their sincere thanks to the Medical Society, the Press and the people of the State for their cordial support and co-operation. They have endeavored to do their duty without fear, favor or prejudice, and now resign their trust into the hands of those from whom, six years ago, they received it. They

retire from their arduous and most unpleasant field of labor with the belief that their conscientious effort to maintain the standard of medical education and protect the people of their State against ignorance and incompetency have not been in vain.

Respectfully submitted,

P. E. HINES, M. D., President.
T. D. HAIGH, M. D.,
GEO. L. KIRBY, M. D.,
THOMAS F. WOOD, M. D.,
JOS. GRAHAM, M. D.,
RICHARD H. LEWIS, M. D.,
HENRY T. BAHNSON, M. D., Secretary.

RALEIGH, N. C., May 22, 1884.

It may not fully appear to the non-professional reader in what way this report indicates service of value to the people of the State, and some explanation will be entered upon.

Early in the history of the State, even at the beginning of the present century there were few men practicing medicine who did so by virtue of a diploma from a Medical College. Medical education was difficult to obtain. There were no railroads, and it was necessary to make a long journey to Philadelphia by private conveyance or stage, to reach the only Medical College in the country. The people in their distress sought aid from the more intelligent of their neighbors, who posssessed a meagre knowledge of medicine obtained from the very scarce works on practice then in circulation. Some of these became in the end useful and successful practitioners. This was a necessity of our pioneer communities. Later, as time passed by, and medical colleges increased, and the demand for doctors increased, competition among some of these colleges got to be very shameful. The public have had a rehearsal of the culmination of this outrage in the Buchanan School, of Philadelphia; but this was not the only example. None knew better than the physicians themselves who had attended these medical colleges, how imperfect the scheme of education was, how utterly destitute the students were of

disciplinary restraint, and how rare a thing it was for any student to come away without a diploma. Many schools there were, of course, which maintained discipline, and insisted upon a standard of acquirements, but unfortunately for the public there was no test to apply to any given graduate, to determine the standing of his college. Furthermore, the large number of persons practicing without a diploma at a time after a medical education was easier to get, included some very shameless quacks; but at the same time it numbered a respectable body of highly experienced men, invaluable to their communities. It was with a full understanding of these points that the friends of the law saw the injustice of demanding a retroactive application, had it been constitutional.

Nothing shows more plainly that the medical profession had well considered its course, than the result of the examinations of the several State Boards. Had the law been more imperative in its demands, requiring that the candidate should receive the entire vote of the Board, the list of successful examinations would have been much reduced.

We learn by this report that the Board found 25 *doctors out of a total of* 183, *examined in six years, who could not pass a practical examination, although sixteen of that number held diplomas from regularly chartered medical colleges.* When we consider that there are a great many doctors who although coming into practice since 1859, have not appeared before the Board, it is reasonable that the number of incompetent doctors now plying their avocation would swell the number of rejections to more than double. Who are the sufferers by such a state of things? Surely not the regular physicians who have received training and an approved education, but the unsuspecting men, women and children. Is it not very clear that the law was a wise one, and that it is, even in its imperfect condition, a tower of defense for the helpless sick people?

We claim that the law has accomplished:

1. A comparative defense of the people against uneducated doctors.

2. That it has stimulated the rising generation of students to a more diligent pursuit of their profession.

3. That it has made some of the medical colleges more careful in their personal attention to students, especially to the students from this State.

4. That it has materially added to the dignity and honor of the medical profession in the State.

5. That it has had a salutary influence upon other States in stimulating them to enact similar laws.

Many States in the Union have followed our lead, some of them going far ahead of us in the construction of the law, and some of them falling below; but all of them striving with the same intent, of improving the professional qualities of physicians.

This brings us now to a very important point in the history of our law, and as we will be able to show, we have soon to act upon the defensive by reason of the "*Law to Regulate the Practice of Medicine and Surgery*," enacted by the General Assembly of Virginia in 1884. We give below a copy of this law:

ACT TO REGULATE THE PRACTICE OF MEDICINE AND SURGERY.

Be it enacted by the General Assembly of Virginia:

1. There shall be for this State a Board of Medical Examiners, consisting of three members from each Congressional District in the State, and two from the State at large, whose terms of office shall be four years, or until their successors are appointed and qualified. The term of office of the Board first appointed shall commence on the first day of January, 1885.

2. The said Board shall consist of men learned in medicine and surgery, and shall be appointed by the Governor on the first day of November, 1884, and every fourth year thereafter, from a list of names to be recommended by the Medical Society of Virginia. Va-

cancies occurring in such Board for unexpired terms shall be filled in the same manner. Such recommendations shall be by the votes of a majority present at some meeting of said Society, and the same shall be certified to the Governor by the President and Secretary of such meeting: *Provided, however*, that in case such Society fail to make such recommendations prior to the time of appointment, or if the Governor shall, in any case, consider the person so recommended, or any of them, unsuitable, then he shall appoint such Board, either in whole or in part, without regard to such recommendations.* If any of said Examiners shall cease to reside in the district for which he was appointed, it shall vacate his office.

3. The members of said Board of Medical Examiners shall qualify and take usual oath of office before the county or corporation court of the county or corporation in which they shall respectively reside. The officers of said Board shall be a President, Vice-President, and Secretary (who shall also act as Treasurer)—such officers to be members of and elected by said Board. The first meeting of the same shall be at Richmond, at such time as the Governor shall notify the members by mail to assemble. Subsequent regular meetings shall be at such times and places as the Board may prescribe, and special meetings may be had upon the call of the President and two members; but there shall not be less than one regular meeting per annum. Five members of said Board shall be a quorum; said Board may organize at its first meeting, and may, at its first or any subsequent meeting, prescribe rules, regulations and by-laws for its proceedings and government, and for the examinations of candidates for the practice of medicine and surgery by its individual members.

4. It shall be the duty of said Board, at any of its meetings, and of the individual members of said Board, at any time, to examine all persons making applications to them, who shall desire to commence the practice of medicine or surgery in this State. When the examination is by an individual member of the Board, he shall report the result of the same to the President thereof; and when an applicant shall have passed an examination satisfactory as to proficiency before three individual members of said Board, or before the Board in session, the President thereof shall grant to such applicant certificate to that effect. A fee to be prescribed by said Board, but not to exceed five dollars, shall be paid to said Board (through such officers or members as it may designate,) by each applicant before such examination is had. In case any applicant shall

* Amended then, so as to give the State Medical Society three months in which to make new nominations.

fail to pass a satisfactory examination before the Board or before the three individual members to whom he shall first apply, he shall not be permitted to stand any further examination within the next three months thereafter: *Provided, however*, no applicant shall be rejected upon his examination on account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and cure of diseases.

5. The fund realized from the fees aforesaid shall be applied by the Board towards its expenses, including a reasonable compensation to the President and Secretary.

6. Any person who shall obtain a certificate as aforesaid from the President of said Board, shall cause his name to be registered in the Clerk's office of the county or corporation court for the county or corporation in which he shall resides, and it shall be the duty of said Clerk to register the name of every such person presenting such certificate, together with the date thereof and the name of the President of the Board signing the same, in a book kept for that purpose as a part of the records of his court, which shall also give the date of each registration, and his fee for each registration shall be one dollar, to be paid by the person whose name is registered.

7. No person who shall commence the practice of medicine or surgery after the first day of January, 1885, shall practice as a physician or surgeon for compensation without having first obtained a certificate and caused his name to be registered as aforesaid. Any person violating the provisions of this section shall pay a fine of not less than fifty nor more than five hundred dollars for each offence, and shall be debarred from receiving any compensation for services rendered as such physician or surgeon.

8. Any person who shall have been assessed with a license tax as a physician or surgeon by any commissioner of the revenue in this State at any time prior to the first day of January, 1885, shall be taken as having commenced the practice of medicine or surgery prior to that date; but any person who shall not have been assessed shall be taken as not having commenced such practice prior to that date.

9. Any physician or surgeon who shall commence to practice after the first day January, 1885, and who shall reside in an adjoining State within ten miles of the boundary lines of this State, shall be entitled to stand the examination and receive the certificate hereinbefore provided for, and such certificate shall be registered as hereinbefore provided—in that county in this State which is nearest his place of residence; and such certificate and registration shall make it lawful for him to practice medicine and surgery.

10. Nothing in this act shall be taken as including or affecting in any way the practice of dentistry, nor shall it include physicians or surgeons residing in other States and called in consultation in a special case with a physician or surgeon residing in this State; nor shall it be construed as affecting or changing in any way the laws in reference to the license tax to be paid by physicians, surgeons and dentists.

It will be observed that section 7 of the above law inflicts a penalty upon any person who shall attempt to practice as a physician or surgeon for compensation after the 1*st day of January*, 1885, without first procuring the license of the Virginia Board.

Now let us put equivalent sections of the North Carolina and Virginia law side by side, that they may be the better understood:

NORTH CAROLINA LAW.

SEC. 2. *Be it further enacted*, That from and after the 15th day of April, 1859, no person shall practice medicine or surgery, or any of the branches thereof, or in any case prescribe for the cure of diseases for fee or reward, unless he or they shall have been first licensed to do so in the manner hereinafter described: *Provided*, That no person who shall practice in violation of this act shall be deemed guilty of a misdemeanor.

SEC. 15. *Be it further enated*, That any person who shall practice medicine or surgery in this State without having first applied for and obtained license from said Board of Examiners as provided for by this act, shall not be entitled to sue for or recover before any magistrate or court in this State any medical bill for services rendered in the practice of medicine or surgery or any of the branches thereof.

VIRGINIA LAW.

7. No person who shall commence the practice of medicine or surgery after the first day of January, 1885, shall practice as a physician or surgeon for compensation without having first obtained a certificate and caused his name to be registered as aforesaid. Any person violating the provisions of this section shall pay a fine of not less than fifty nor more than five hundred dollars for each offence, and shall be debarred from receiving any compensation for service rendered as such physician or surgeon.

It becomes apparent that in North Carolina there is no penalty against this admitted violation of the law, except that the violator shall be deprived of collecting his fees, and all shrewd people will see that this is a minor contingency. Fortunately, public opinion has been, of late, holding the lash over the unlicensed with some degree of earnestness, which will doubtless increase if the executors of the law as it now is, pursue their duty with the intense earnestness which they have shown in the past.

The Virginia law punishes the violator with a fine, and so gives the sort of emphasis to its meaning which the dullest people can understand. But what must be the result of Virginia's action as far as this State is concerned? It is not difficult to make out. The unlicensed from that State will seek a field where they can ply their business with only a little more care as to getting their fees, and so avoid all penalties. As our business and social relations are more intimate with that State than any other, North Carolina will become as of old, the asylum for unsuccessful or rebellious Virginians, and we will have her half educated, uneducated and quackish doctors added to our own dismal list, and the sufferers will be the innocent, the ignorant, the unwary sick of all sexes and races.

It is no imaginary evil, therefore, that we are combatting. Our own law must be made stronger. Our Legislature must take out that negative expression from the proviso of the 2d section of our law, and cause it to read: "*That any person who shall practice in violation of this act shall be guilty of a misdemeanor.*"

Is that demand unreasonable? Let us examine what other States besides Virgina have enacted upon this point. Here is a part of the ALABAMA law upon the subject, dated 1877:

Be it enacted by the General Assembly of Alabama:

SECTION 1. That no person, except those proposing to practice some irregular system of medicine, shall be permitted to practice

medicine in any of its branches or departments as a profession and means of livelihood in this State, without having obtained a certificate of qualification from some authorized Board of Medical Examiners, as hereinafter provided.

SEC. 2. That no person shall be permitted to practice any irregular system of medicine in any of its branches or departments as a profession or means of livelihood, in this State, without having obtained a diploma or certificate of qualification in anatomy, physiology, chemistry and the mechanism of labor from some authorized Board of Medical Examiners, as hereinafter provided.

* * * * * *

SEC. 6. That any person practicing medicine in this State in violation of any of the provisions of this act shall be guilty of a misdemeanor, and, upon conviction thereof before any court having competent jurisdiction, shall be fined in the sum of not more than one hundred dollars for every such offense; and if the fine so imposed be not immediately paid, said person shall be imprisoned in the county jail for not more than one year for such offense.

ARKANSAS, in 1881, enacted a law to regulate the prac- of medicine, in terms similar to Alabama. Here is the penalty clause of that act:

SEC. 11. Any person who shall hereafter engage in the practice of medicine and surgery, or either, in this State, without being registered under this act, shall be deemed guilty of a misdemeanor, and upon conviction, in any court having jurisdiction of the laws of this State, shall be fined in any sum not less than ten nor more than one hundred dollars. And each day said physician shall practice medicine, without being registered, as hereinbefore required, shall be deemed a separate offense.

CALIFORNIA, in 1876, enacted a law to regulate the practice of medicine and surgery, from which we quote the following penalty clauses:

Any person practicing medicine or surgery in this State, without first having procured a certificate to so practice from one of the Boards of Examiners appointed by one of the Societies mentioned in section two of this act, shall be deemed guilty of a misdemeanor,

and shall be subject to the penalties provided in section thirteen of the act to which this act is amendatory and supplemental.

The penalty referred to is as follows:

Any person practicing medicine or surgery in this State, without complying with the provisions of this act, shall be punished by a fine of not less than fifty dollars ($50), nor more than five hundred dollars ($500), or by imprisonment in the county jail for a period of not less than thirty days nor more than three hundred and sixty-five days, or by both such fine and imprisonment, for each and every offense; and any person filing or attempting to file, as his own, the the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of felony, and, upon conviction, shall be subject to such fine and imprisonment as are made and provided by the statutes of this State for the crime of forgery.

To meet another class of offenders, a class that so often traverses our State depleting the pockets of the ignorant, California enacted another section in the same law already quoted from as follows:

Any itinerant vender who shall sell or offer for sale any drug, nostrum, ointment, or appliance of any kind intended for the treatment of disease or injury; or any person who shall, by writing or printing, or by any other method, publicly profess to cure or treat disease, injury or deformity by any medicine, drug or drugs, nostrum, manipulation, or other expedient, shall pay a license of one hundred dollars a month. Such license shall be collected as other licenses are.

GEORGIA, in 1881, passed a law known as a "*Registration Law*," and for a violation of its requirements, enacted the following penalty:

SEC. 5. * * * That any person who violates either of the four preceding sections of this act, or who shall practice or offer to practice medicine without lawful authority, or under cover of a diploma or license illegally obtained, shall be deemed guilty of a misdemeanor, and, on conviction, shall be punished by a fine of not less than one hundred dollars nor more than five hundred dollars, or by

imprisonment for not less than thirty nor more than ninety days, or both. The fine, when collected, shall be paid the one-half to the person, persons or corporation making the complaint, the other half into the county treasury.

ILLINOIS has a law (it is a registration law) for the Regulation of the Practice of Medicine, which has done a great deal to encourage and stimulate all the States in the Union having a similar population to deal with. Its management is a part of the duty of the State Board of Health. That is verifying and registering their diplomas, or standing an examination. The penalty clauses of this law are as follows:

LICENSE TO ITINERANT VENDERS:

SEC. 12. Any itinerant vender of any drug, nostrum, ointment or appliance of any kind, intended for the treatment of disease or injury, or shall, by writing or printing, or any other method, publicly profess to cure or treat diseases, injury or deformity by any drug, nostrum, manipulation or other expedient, shall pay a license of one hundred dollars a month, to be collected in the usual way.

PENALTIES FOR NON-COMPLIANCE WITH THIS ACT:

SEC. 13. Any person practicing medicine or surgery in this State without complying with the provisions of this act, shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days nor more than three hundred and sixty-five days, or both such fine and imprisonment, for each and every offense; and any person filing or attempting to file, as his own, the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and, upon conviction, shall be subject to such fine and imprisonment as are made and provided by the statutes of this State for the crime of forgery, but the penalties shall not be enforced till on and after the thirty-first day of December, eighteen hundred and seventy-seven: *Provided*, that the provisions of this act shall not apply to those that have been practicing medicine ten years within this State.

KENTUCKY, in 1874, enacted a law Regulating the Practice of Medicine which requires the verification of a medical

diploma, and under certain conditions an examination before a Board of Medical Examiners. The penalty clause in this act is as follows:

SEC. 8. Any person living in this State, or any person coming into this State, who shall practice medicine or attempt to practice medicine, in any of its departments, or who shall perform or attempt to perform any surgical operation, for or upon any person within the limits of this State, for reward or compensation, in violation of the provisions of this act, shall, upon conviction thereof, be fined fifty dollars, and upon each and every subsequent conviction be fined one hundred dollars and imprisoned thirty days, or either, or both, in the discretion of the jury; and in no case where the provision of this act has been violated, shall the person so violating be entitled to receive compensation for services rendered.

LOUISIANA has recently (1882) enacted a Registration Law, and any person practicing medicine or surgery in the State in violation of the law comes under the following penalty clause:

SEC. 6. That any practitioner of medicine or surgery, failing to comply with the requirements of this act, shall not be exempt from jury or militia duty, nor be permitted to collect any fees or charges for services rendered, nor be allowed to testify as a medical or surgical expert in legal or State medicine in any court of this State, nor to execute any certificate as a surgeon or physician, nor to hold any medical office, nor to be recognized by the State or any parish or municipal corporation as a physician or surgeon; nor shall he be entitled to enjoy any of the privileges, rights or exemptions granted to physicians or surgeons by the laws of this State; and moreover, he shall forfeit and be liable to a penalty of one hundred dollars for each and every violation of this act, and for each and every time he so violates it, said sum or sums to be recovered in a civil action to be brought before any court of competent jurisdiction, in the name and for the benefit of the Charity Hospital at New Orleans; and he shall, in addition thereto, be subject to criminal prosecution and be punished in the manner prescribed by law for violations of this act.

MISSISSIPPI passed a law Regulating the Practice of Medicine in 1882, requiring every person intending to pursue

medical practice in that State to take out a license. The following is the penalty clause of this act:

SEC. 23. That every person or persons offending against the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof, shall, for each offence, be fined in a sum of not less than fifty nor more than five hundred dollars, or be imprisoned in the county jail not less than ten nor more than thirty days, or both such fine and imprisonment at the discretion of the court.

The State of TEXAS enacted the following penalty in 1879:

ART. 396. If any person shall practice for pay, or as a regular practitioner of medicine in this State, in any of its branches or departments, or offer or attempt to practice, without first having obtained a certificate of professional qualifications from some authorized Board of Medical Examiners, or without having a diploma from some accredited Medical College, chartered by the Legislature of the State or its authority, in which the same is situated, he shall be punished by fine of not less than fifty nor more than five hundred dollars.

ART. 398. If any person shall hereafter engage in the practice of medicine in any of its branches or departments, for pay or as a regular practitioner, without having first filed for record with the Clerk of the District Court of the county in which such person may reside or sojourn, a certificate from some authorized Board of Medical Examiners, or a diploma from some accredited Medical College, he shall be punished as prescribed in Art. 396.

WEST VIRGINIA enacted a law in 1882, making the State Board of Health the Board of Examiners, and the Regulation of the Practice of Medicine, according the law, is executed by the said Board. The penalty clause in this act is as follows:

SEC. 15. If any person shall practice, or attempt to practice medicine, surgery or obstetrics in this State without having complied with the provisions of section nine (9) of this chapter, except as therein provided, he shall be guilty of a misdemeanor and fined for

every such offense not less than fifty nor more than five hundred dollars, or imprisoned in the county jail not less than one month nor more than twelve months, or be punished by both such fine and imprisonment, at the discretion of the court. And if any person shall file or attempt to file as his own, the diploma or certificate of another, or shall file or attempt to file a false or forged affidavit of his identity, or shall wilfully swear falsely to any question which may be propounded to him on his examination, as herein provided for, or to any affidavit herein required to be made or filed by him, he shall, upon conviction thereof, be confined in the penitentiary not less than one nor more than three years, or imprisoned in the county jail not less than six nor more than twelve months, and fined not less than one hundred nor more than five hundred dollars at the discretion of the court.

It will be seen that North Carolina stands alone in having a law regulating the practice of medicine, devoid of an important penalty clause. It will also be seen that the laws regulating the practice of medicine in the different States, with the exception of this State, are of recent date, indicating to all thinking people that they were dictated by the necessities of the times, and indicating, furthermore, that the action of one State necessitated the action of others as a matter of self-defence, to prevent the influx of rejected doctors from other States.

In estimating the legal bearing of medical examinations, too little thought has been given to analagous provisions for the practice of other professions.

From the earliest day, candidates desirous of engaging in the practice of law were required to come before the Supreme Court and undergo an examination. During the recent revolution succeeding our civil war, this provision was annulled, and the only requirement of the statute was that the candidate should pay $20 and be endorsed by members of the bar. Subsequently, the original requirement of an examination by the Supreme Court was re established, and for the very good reason that it was necessary to base the admission to a responsible and learned profession like

the law upon educational qualifications. It was very apparent that a certain result would follow the removal of educational restrictions, viz: that of overcrowding the legal profession with uneducated, and half educated, and sometimes unprincipled men. It needs no argument to prove to the people, that the present practice of only admitting lawyers to the bar after an examination, is a necessrry provision, not only for the maintenance of the profession of the law at a high standard, but of protection to the people.

There is another which we will cite, that of the Teaching Profession. The law provides for the examination of persons intending to teach our public schools. This is as it should be. Teachers of competent qualifications cannot be judged of by letters of recommendation. There must be a legally constituted authority who must determine who may, and who shall not teach our children.

The professions of Pharmacy and Dentistry have also their safeguards designed for the protection of the interests of the people and for the advancement of these indispensaable branches of art and science. They are growing yearly in importance, and fulfilling in a marked degree the predictions of their founders.

Look in whatever direction we may, we find that the spirit of the times demands more of the professions. The rapid growth of learning is increasing the responsibilities of those engaged in them.

Our own State has solemnly declared by the law, as regards the medical profession, that those persons who engage in practice shall prove a competent knowledge of medicine in all its branches by an examination before a Board of Examiners, thus admitting the necessity of protection from an unlearned and unskilful profession, but at the same time failing to protect those candidates who, with commendable State pride and professional honor, seek to obey the behests of the law.

We say, in conclusion, that having demonstrated the earnestness and zeal of the medical profession by the exhibition of accomplished work, done in the interests of the entire population, we ask for a studious consideration of our needs. We have already done far more for the State than the State has done for herself in shaping the character of the medical profession, and we trust that she will strengthen us by revising the law under which we work.

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